STARTING $ALARIE$

Of Chemists and Chemical Engineers

Analysis of the
American Chemical Society's
Survey of Graduates in
Chemistry and Chemical Engineering

1988

1988 SURVEY REPORT

STARTING SALARIES AND EMPLOYMENT STATUS OF

CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES

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Washington, D.C. 20036

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CONTENTS

	Page
Acknowledgments	iv
Summary of Findings	1
Salaries	
Post-graduation Employment Status	
Plans for Advanced Study and Postdoctoral Fellowships	
Graduates Who Have Completed ACS Approved Programs	
Characteristics of Degree-Granting Institutions and Employers	
Scope and Method	11
Objectives	
Method of Collection and Timing of Survey	
Extent of Coverage	
Definitions	
Geographic Regions	
Technical Notes	15
Discrepancies Among Tables	
Estimates of Median Salaries	
Comparing Salaries	
Estimating Sampling Error for Percents	
List of Tables	17
Tables	21
Survey Questionnaire and Cover Letter	103

ACKNOWLEDGMENTS

Each year, at the direction of its Joint Board-Council Committee on Economic Status, the American Chemical Society (ACS) surveys recent chemistry and chemical engineering graduates to determine trends in starting salaries and employment status. This report presents detailed results of the 1988 Starting Salary Survey. A summary of the survey findings was published in the October 24 issue of *Chemical and Engineering News*.

Joan Burrelli and Seryu Patel of the ACS Market and Business Analysis Department conducted this year's survey and prepared this report. Dr. Burrelli wrote the summary and comment on the following pages.

Robert K. Neuman, Special Assistant to the Director,
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SUMMARY OF FINDINGS

SALARIES

Salaries for inexperienced BS chemists and chemical engineers increased moderately in 1988. The mean starting salary for inexperienced BS chemists was $21,743 in 1988, compared with $20,407 in 1987. The mean starting salary for inexperienced BS chemical engineers was $29,821 in 1988, compared with $28,576 in 1987.

Table 1 shows average starting salaries paid to inexperienced chemistry graduates for 1987 and 1988, and gives additional information concerning the variation among individual salaries within each group. Table 2 presents corresponding information for chemical engineering graduates. The trends in median starting salaries from 1980 to the present for inexperienced chemists and chemical engineers are shown in Figures 1 and 2.

For inexperienced chemists (those with less than 12 months of experience), 1988 mean starting salaries were:

$21,743 for the	BS,	up	6.5%,	or in constant dollars	up	2.4%
$27,023 for the	MS,	up	1.0%,	or in constant dollars	down	2.9%
$36,961 for the	PhD,	up	7.3%,	or in constant dollars	up	3.2%

Chemical engineers continue to receive larger starting salaries than do chemists with similar degrees. Among chemical engineers, the 1988 mean starting salaries were:

$29,821 for the	BS,	up	4.4%,	or in constant dollars	up	0.3%
$33,152 for the	MS,	up	1.0%,	or in constant dollars	down	2.9%
$41,877 for the	PhD,	down	2.0%,	or in constant dollars	down	5.7%

The Consumer Price Index rose 4.0% from June 1987 to June 1988.

POST-GRADUATION EMPLOYMENT STATUS

Unemployment rates for BS chemists and chemical engineers were lower in 1988 than in 1987. For MS and PhD chemists and chemical engineers, however, unemployment rates were higher this year than last. The unemployment rate for PhD chemistry graduates was higher than those for BS and MS graduates.

In the last few years, unemployment has been more severe among recent BS chemical engineering graduates than among recent chemistry graduates. The sharp decline in unemployment among recent BS chemical engineering graduates between 1987 and 1988 indicates a renewed demand for chemical engineers.

Because unemployment is defined as the fraction of the labor force who are not working but are seeking employment, persons not seeking work (a large proportion of recent BS chemistry graduates) are neither employed nor "unemployed." In determining the unemployment rate, those not seeking employment must be subtracted from the total. Performing the calculation in this way yields larger unemployment rates among recipients of the bachelor's degree than the figures in Table 3 seem to indicate: 11% in chemistry and 8% in chemical engineering.

Table 1

STARTING YEARLY SALARIES
OF INEXPERIENCED FULL-TIME EMPLOYED
CHEMISTRY GRADUATES

by Degree: 1987 and 1988

	DEGREE LEVEL					
Salaries	Bachelor's		Master's		Ph.D.	
	1987	1988	1987	1988	1987	1988
90th Percentile	$26,000	$27,500	$33,000	$33,000	$42,000	$44,100
75th Percentile	24,000	25,400	30,000	31,000	40,150	42,500
50th Percentile	20,000	21,900	28,000	27,700	38,400	40,500
25th Percentile	17,500	18,000	22,500	23,400	30,650	30,000
10th Percentile	15,500	16,000	19,500	21,000	22,000	23,000
Mean	20,407	21,743	26,758	27,023	34,438	36,961
Count	291	322	59	64	105	148
Standard Deviation	4,322	4,520	5,723	5,864	8,243	8,901

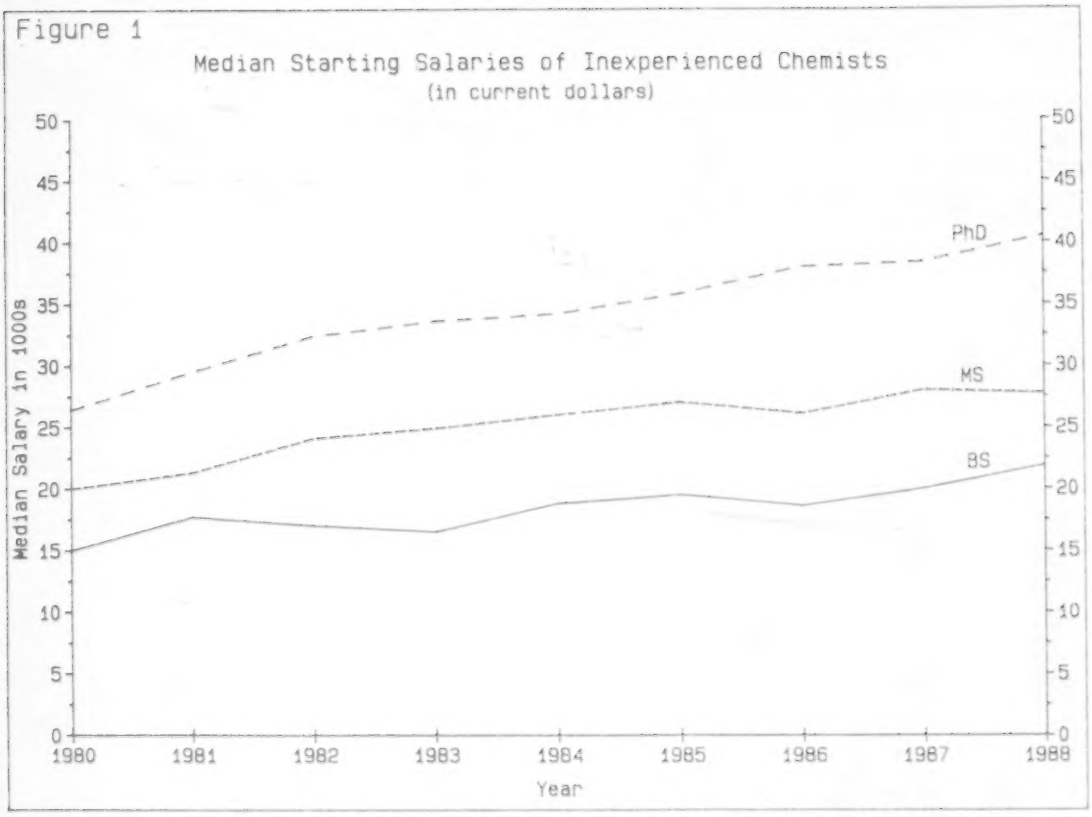
Table 2

STARTING YEARLY SALARIES
OF INEXPERIENCED FULL-TIME EMPLOYED
CHEMICAL ENGINEERING GRADUATES

by Degree: 1987 and 1988

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1987	1988	1987	1988	1987	1988
90th Percentile	$31,450	$32,500	$36,000	$38,000	$47,000	$48,000
75th Percentile	30,800	31,800	35,000	34,400	45,000	46,000
50th Percentile	30,000	31,000	32,500	33,000	43,000	44,400
25th Percentile	28,516	29,000	31,000	32,000	41,000	40,000
10th Percentile	23,900	25,000	28,300	28,000	39,100	31,200
Mean	28,576	29,821	32,813	33,152	42,721	41,877
Count	351	311	38	33	48	58
Standard Deviation	3,808	3,370	5,309	4,065	5,585	7,102

Figure 1

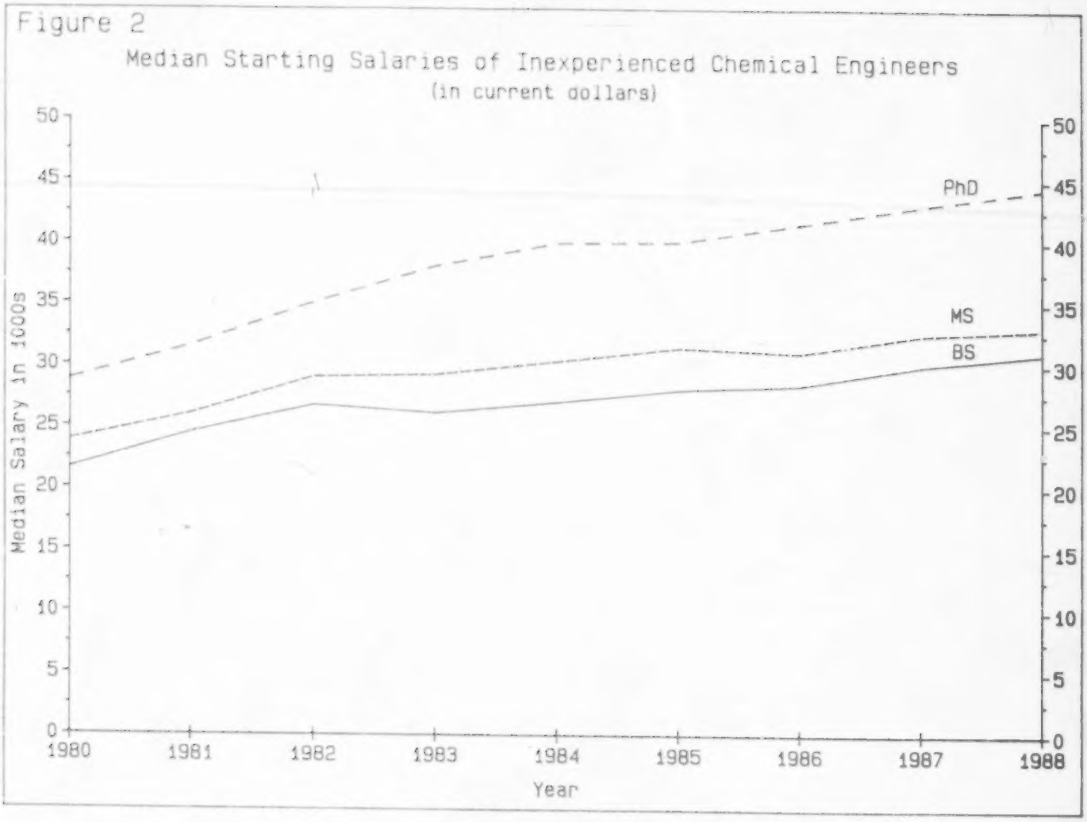


Median Starting Salaries of Inexperienced Chemists*
(in current dollars)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
BS	$15.0	$17.7	$17.0	$16.5	$18.8	$19.5	$18.6	$20.0	$21.9
MS	20.0	21.3	24.1	24.9	26.0	27.0	26.1	28.0	27.7
PhD	26.4	29.5	32.4	33.6	34.2	35.8	38.0	38.4	40.5

*Base annual salary in thousands of dollars.

Figure 2



Median Starting Salaries of Inexperienced Chemical Engineers*
(in current dollars)

	1980	1981	1982	1983	1984	1985	1986	1987	1988
BS	$21.6	$24.5	$26.7	$26.1	$27.0	$28.0	$28.4	$30.0	$31.0
MS	23.9	26.0	29.0	29.2	30.3	31.4	31.0	32.5	33.0
PhD	28.8	31.5	35.0	38.0	39.9	40.0	41.5	43.0	44.4

*Base annual salary in thousands of dollars.

The recent history for unemployment calculated in this way is:

	1988	1987	1986	1985	1984	1983	1982	1981
Chemical Engineering	8%	16%	21%	22%	24%	42%	26%	8%
Chemistry	11%	13%	13%	23%	27%	31%	21%	23%

PLANS FOR ADVANCED STUDY and POSTDOCTORAL FELLOWSHIPS

A rough indicator of demand is postdoctoral fellows as a percent of new PhDs. Because some of the new doctoral chemists who accept postdoctoral fellowships would have preferred full-time employment, an increase in the fraction accepting such fellowships indicates insufficient full-time employment. This year, this measure of demand indicates that the climate is substantially more hospitable for both chemistry and chemical engineering doctorate recipients than it was last year. Among new chemistry doctorate recipients, 35% accepted postdoctoral positions in 1988 as compared with 48% in 1987. Among new chemical engineering doctorate recipients, 12% accepted such positions in 1988 as compared with 17% in 1987.

This year's bachelor's degree recipients are more likely than last year's to have plans for full-time studies. The anticipated field of study has also shifted somewhat for this year's graduates. This year, 48% of BS chemistry graduates who plan further studies plan either full-time or part-time study in chemistry as compared with 46% last year. Fewer BS chemistry graduates are choosing medicine or dentistry and more are choosing business this year than last. Among BS chemical engineering graduates, more are choosing chemical engineering majors this year than last. A summary of these plans appears in Tables 4 and 5. Figure 3 shows the postgraduation plans of BS chemistry graduates.

CHEMISTRY GRADUATES WHO HAVE COMPLETED ACS APPROVED PROGRAMS

Graduates completing undergraduate chemistry programs approved by the ACS's Committee on Professional Training generally received higher starting salaries than graduates completing non-approved programs (see Table A-9). If planning further study, they are more likely to choose chemistry as their field of advanced study. Among BS chemistry graduates planning full-time advanced study, approximately 35% plan to study medicine and approximately 38% plan to study chemistry. Approximately 75% of those studying medicine were in non-approved programs whereas 72% of those studying chemistry were in approved programs (see Table C-5). The unemployment rate for graduates of approved programs was somewhat lower (8% versus 14%) than that for graduates of non-approved programs.

CHARACTERISTICS OF DEGREE-GRANTING INSTITUTIONS AND EMPLOYERS

This year, the Starting Salary Survey attempted to account for the variation in salaries paid to new bachelor's degree recipients, primarily by analyzing salary differences according to characteristics of the degree-granting institutions and size of the employer. The results indicate that, generally speaking, BS chemists received higher salaries if their degrees were from schools that are in the Midwest or New England, grant doctorate degrees, or are privately controlled, and that chemists and chemical engineers employed by larger firms generally received higher salaries than those employed by smaller firms.

For chemical engineers, the type and size of school from which they received degrees make little difference in salaries. Employer size, however, does make a difference in chemical engineers salaries. BS chemical engineers employed in larger firms (more than 24,000 employees) make 12% more than chemical engineers employed in small firms (less than 500 employees). Proportionately more chemical engineers than chemists are clustered at the higher end of the salary range because proportionately more chemical engineers than chemists are employed in firms with more than 24,000 employees.

These differences, along with more obvious ones, ought to be taken into account in any comparisons among salaries.

Table 3

POSTGRADUATION STATUS OF CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: FALL 1988

Major and Employment Status	Bachelor's	Master's	Doctorate
CHEMISTRY			
Full-time employed:			
In chemistry or chemical engineering	30.7%	49.8%	48.4%
Outside chemistry or chemical engineering	6.6%	4.4%	3.3%
Grad. asst./postdoctoral or other fellowship	26.3%	28.5%	35.0%
Unemployed and seeking full-time employment	7.9%	6.4%	11.1%
Unemployed and not seeking full-time employment	28.5%	10.8%	2.1%
Total	100.0	100.0	100.0
Number of responses	1,576	295	512
CHEMICAL ENGINEERING			
Full-time employed:			
In chemistry or chemical engineering	63.9%	49.7%	71.9%
Outside chemistry or chemical engineering	13.0%	8.3%	7.4%
Grad. asst./postdoctoral or other fellowship	9.3%	27.6%	12.4%
Unemployed and seeking full-time employment	7.6%	7.6%	6.6%
Unemployed and not seeking full-time employment	6.1%	6.9%	1.7%
Total	100.0	100.0	100.0
Number of responses	785	145	121

Table 4

PLANS FOR FURTHER STUDY OF B.S. CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: FALL 1988

Plans	Chemistry	Chemical Engineering
Further studies	67.2%	32.9%
Full-time	(56.9%)	(16.8%)
Part-time	(10.3%)	(16.1%)
No plans for further studies	32.7%	67.1%
Total	100.0	100.0
Number of responses	1,730	805

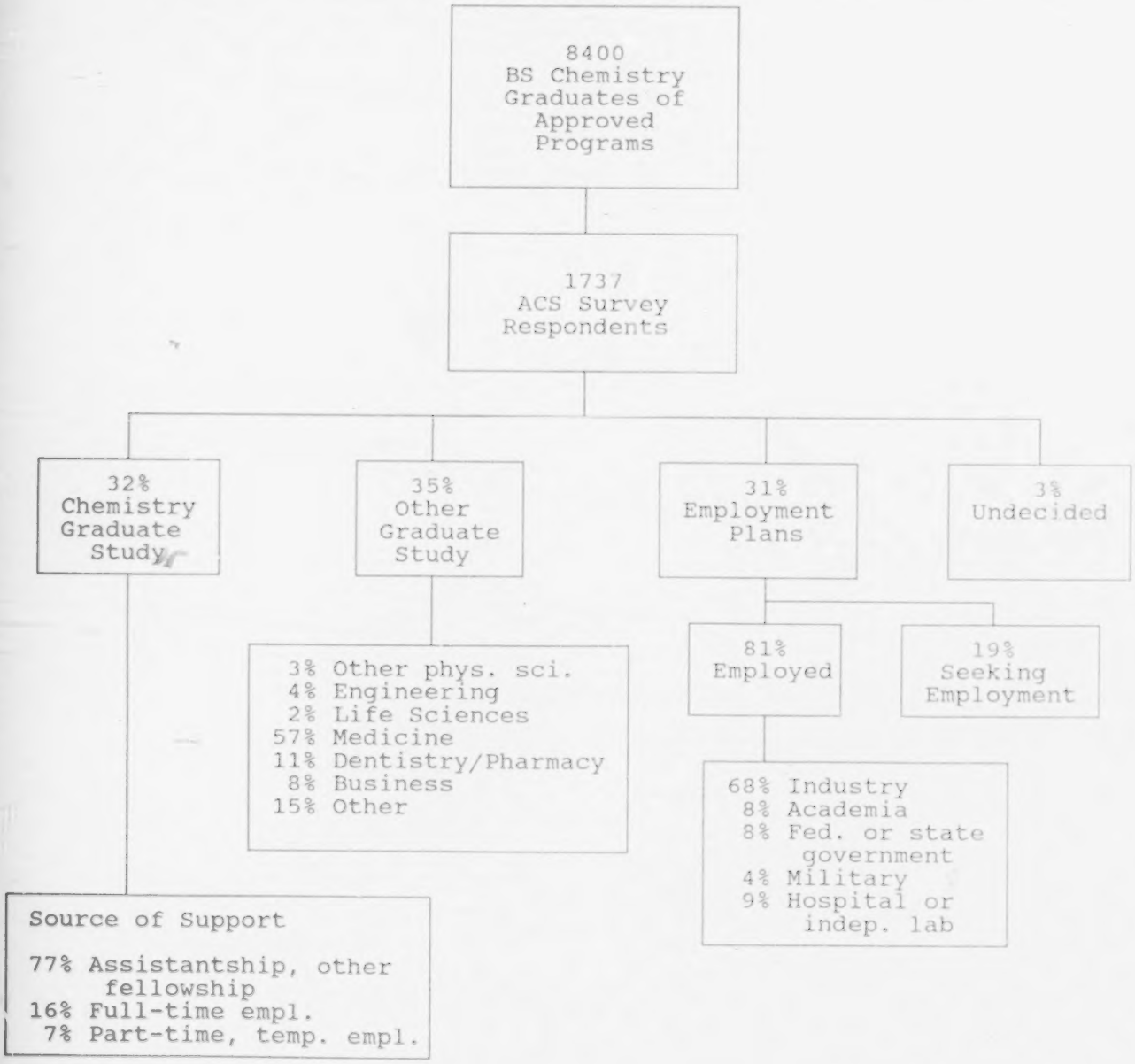
Table 5

FIELDS OF STUDY OF B.S. CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES WHO PLAN FURTHER STUDIES Fall 1988

Field of Study	Chemistry	Chemical Engineering
FULL-TIME		
Chemistry or biochemistry	46.0%	2.2%
Chemical or biochemical engineering	0.7%	68.9%
Medicine or dentistry	38.0%	8.9%
Business or management	1.5%	4.4%
All others	13.8%	15.6%
Total	100.0	100.0
Number of responses	981	135
PART-TIME		
Chemistry or biochemistry	56.9%	1.6%
Chemical or biochemical engineering	2.3%	26.8%
Medicine or dentistry	2.9%	0.8%
Business or management	18.4%	49.6%
All others	19.5%	21.2%
Total	100.0	100.0
Number of responses	174	127

Figure 3

Post-graduation Plans of 1988 BS Chemistry Graduates of ACS-Approved Programs



Source: 1988 ACS Starting Salary Survey.

SCOPE AND METHOD

OBJECTIVES

The 1988 Starting Salary Survey is the 37th in the series of annual surveys now conducted by the American Chemical Society. Summaries of the results of these surveys appear annually in the "Employment Outlook" edition of the *Chemical and Engineering News*. This year preliminary results were published on October 24.

The primary objective of the survey is to gather data on the starting salaries and occupational status of new chemists and chemical engineers who graduated during the 1987-88 academic year. The survey covers bachelor's, master's, and doctoral degree recipients. In addition, the survey provides information on graduates' sex, citizenship, and ethnicity.

METHOD OF COLLECTION AND TIMING OF SURVEY

Chemistry departments approved by the ACS and chemical engineering departments approved by the American Institute of Chemical Engineers and the Engineer's Council for Professional Development provided names and addresses of students that graduated between August, 1987 and June, 1988. During the summer of 1988, questionnaires were mailed to those graduates who had U.S. addresses.

EXTENT OF COVERAGE

Survey questionnaires were mailed during July and August to approximately 10,500 graduates. By the cutoff date of October 3, ACS had received 4,023 usable responses. Another 435 questionnaires were returned as nondeliverable. No attempt was made to examine the characteristics of graduates from departments that did not participate in the survey or of those graduates who did not mail back completed questionnaires.

DEFINITIONS

The term "inexperienced" as used in the tables refers to those who have 12 months or less of prior professional work experience. The term "chemist" refers to one who received a degree in chemistry. The term "chemical engineer" refers to one who received a degree in chemical engineering. Salary tables are based only on salaries of those who found full-time employment in chemistry or chemical engineering. Postdoctoral salaries are analyzed separately. Salaries are reported in U.S. dollars.

The Technical Notes present methods for estimating sampling error and also explain certain discrepancies among some of the tables.

GEOGRAPHIC REGIONS

PACIFIC

Alaska
California
Hawaii
Oregon
Washington

MOUNTAIN

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

WEST NORTH CENTRAL

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

WEST SOUTH CENTRAL

Arkansas
Louisiana
Oklahoma
Texas

EAST NORTH CENTRAL

Illinois
Indiana
Michigan
Ohio
Wisconsin

EAST SOUTH CENTRAL

Alabama
Kentucky
Mississippi
Tennessee

MIDDLE ATLANTIC

New Jersey
New York
Pennsylvania

SOUTH ATLANTIC

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia

NEW ENGLAND

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

TECHNICAL NOTES

DISCREPANCIES AMONG TABLES

Because not all individuals responded to all of the survey items, some pairs of tables contain totals that should be identical but are not. For example, one table may group PhDs according to sex and another according to employer. The totals will differ unless the number who did not indicate their sex is the same as the number who did not indicate their employer.

ESTIMATES OF MEDIAN SALARIES

Median salaries displayed within the cells of the salary tables are sample medians and are therefore subject to sampling error. This error could be quite large, especially when the number of respondents in the corresponding cell is small. Therefore, median salaries in cells with fewer than 15 respondents should not be used to estimate their corresponding population medians. Similarly, tables showing the 25th and 75th salary percentiles, and those showing the 10th and 90th salary percentiles, should have at least 25 respondents and 40 respondents respectively.

COMPARING SALARIES

Often questions arise concerning women's salaries as compared with men's, or chemists' salaries as compared with chemical engineers'. These and similar comparisons require caution.

Statistical tests should be performed to determine whether observed differences in salaries of various sample groups could be mere chance occurrences resulting from peculiarities of the samples. Whether a difference in salaries is "statistically significant" depends not only on the magnitude of the difference but also on the sample sizes and the magnitudes of the sample standard deviations.

Discussion of statistical tests of significance may be found in *Introductory Statistics for Business and Economics*, by Thomas H. Wonnacott and Ronald J. Wonnacott, NY: Wiley, 1984, and in other similar texts.

ESTIMATING SAMPLING ERROR FOR PERCENTS

Percents in this report are derived from the sample. If the entire population had received and returned questionnaires, most estimates would be somewhat different. How much different? Although this question does not have an exact answer, the table below does provide some guidance. To use the table, find the column headed by the percent (p) derived from the sample, and find the row appropriate for the sample size (n). (Approximations for p and n may be used.) Note the number in that column and that row of the table.

This number from the body of the table measures the precision with which the sample percent estimates the percent of the entire population. Specifically, if this procedure is applied repeatedly, about 95 times out of 100, the population percent will differ from the sample percent by no more than the amount shown in the table.

Approximate Sampling Errors for Percents

n	p= 10% or 90%	p= 20% or 80%	p= 30% or 70%	p= 40% or 60%	p= 50%
50	8.3%	11.4%	12.7%	13.6%	13.9%
100	5.9	7.8	9.0	9.6	9.8
200	4.2	5.5	6.4	6.8	6.9
500	2.6	3.5	4.0	4.3	4.4
1000	1.9	2.5	2.8	3.0	3.1
2000	1.3	1.8	2.0	2.1	2.2
5000	0.8	1.1	1.3	1.4	1.4
10000	0.6	0.8	0.9	1.0	1.0

In Table B-1a for example, 484 respondents classified as chemists indicated their highest degree as the bachelor's degree, and their employment status as employed full-time in chemistry. The percent of this group who are women is listed as 44.4 percent (p=44.4). A "95% confidence interval" for this percent may be approximated by taking n and p to be about 500 and 40%. The above table shows an approximate sampling error of 4.3%. Hence, the 95% confidence interval is 40.1% to 48.7%. If estimates were made at this "level of confidence" from 100 similar samples, about 95 of the confidence intervals calculated from these samples would contain the true population percent.

LIST OF TABLES

			Table	Page
SALARIES OF RESPONDENTS				
Full-time Chemists				
Degree	Experience		A-1	21
Full-time Chemical Engineers				
Degree	Experience		A-2	22
Full-time Inexperienced Chemists in Private Industry				
Degree	Sex		A-3	23
Full-time Inexperienced Chemical Engineers in Private Industry				
Degree	Sex		A-4	24
Full-time Employed Inexperienced Chemists				
Degree	Sex		A-5	25
	Employer		A-6	26
		Men	A-7	27
		Women	A-8	28
Degree	Work Function		A-9	29
Employer	ACS Approved Curriculum	BS	A-10	30
Degree	Degree Specialty	MS and PhD.	A-11	31
Degree	Geographic Region		A-12	32
Full-time Employed Inexperienced Chemical Engineers				
Degree	Sex		A-13	33
	Employer		A-14	34
		Men	A-15	35
		Women	A-16	36
Degree	Work Function		A-17	37
Degree	Geographic Region		A-18	38
EMPLOYMENT STATUS				
All Chemists				
Employment Status	Degree	Sex	B-1a	39
Plans for Advanced Study	Degree	Sex	B-1b	40
Employment Status	Degree	Citizenship	B-2a	41
Plans for Advanced Study	Degree	Citizenship	B-2b	44
Employment Status	Ethnicity	Degree	B-3a	47
Plans for Advanced Study	Ethnicity	Degree	B-3b	50
Employment Status	ACS Approved Curriculum	BS	B-4a	53
Plans for Advanced Study	ACS Approved Curriculum	BS	B-4b	54
Employment Status	Degree Specialty	MS	B-5	55
		PhD	B-6	56

			Table	Page
All Chemical Engineers				
Employment Status	Degree	Sex	B-7a	57
Plans for Advanced Study	Degree	Sex	B-7b	58
Employment Status	Degree	Citizenship	B-8a	59
Plans for Advanced Study	Degree	Citizenship	B-8b	62
Employment Status	Degree	Ethnicity	B-9a	65
Plans for Advanced Study	Degree	Ethnicity	B-9b	68
ADVANCED FURTHER STUDIES				
Part-time Study				
Chemistry Graduates				
Field of Advanced Study	Degree	Sex	C-1	71
	ACS Approved Curriculum	BS	C-2	74
Chemical Engineering Graduates				
Field of Advanced Study	BS and MS	Sex	C-3	75
Full-time Study				
Chemistry Graduates				
Field of Advanced Study	Degree	Sex	C-4	77
	ACS Approved Curriculum	BS	C-5	80
Chemical Engineering Graduates				
Field of Advanced Study	BS and MS	Sex	C-6	81
BS Chemistry and Chemical Engineering Graduates Not Employed and Not Seeking Employment				
Chemistry Graduates				
Sex	Plans for Further Studies		C-7	83
Chemical Engineering Graduates				
Sex	Plans for Further Studies		C-8	84
AGE DISTRIBUTION OF RESPONDENTS				
All Chemistry and Chemical Engineering Graduates				
Age	Sex	BS	D-1	85
		MS	D-2	86
		PhD	D-3	87
Postdoctoral Chemists				
Age	Sex		D-4	88

			Table	Page
NUMBER OF JOB OFFERS				
Full-time Employed Inexperienced Chemists				
Number of Offers	Degree	Sex	E-1	89
Full-time Employed Experienced Chemists				
Number of Offers	Degree	Sex	E-2	90
Full-time Employed Inexperienced Chemical Engineers				
Number of Offers	Degree	Sex	E-3	91
Full-time Employed Experienced Chemical Engineers				
Number of Offers	Degree	Sex	E-4	92
ETHNIC CLASSIFICATION AND CITIZENSHIP				
All Chemistry Graduates				
Citizenship	Degree	Ethnicity	F-1	93
		Sex	F-2	96
Minority Chemistry Graduates				
Minority Classification	Degree	Sex	F-3	97
All Chemical Engineering Graduates				
Citizenship	Degree	Ethnicity	F-4	98
		Sex	F-5	101
Minority Chemical Engineering Graduates				
Minority Classification	Degree	Sex	F-6	102

Table A-1

SALARIES of CHEMISTS employed FULL-TIME
by DEGREE and EXPERIENCE
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK EXPERIENCE			
LESS THAN 12 MONTHS			
Median	21,916	27,700	40,500
Mean	21,743	27,023	36,961
Std Dev	4,520	5,864	8,901
Count	322	64	148
12 TO 36 MONTHS			
Median	22,000	30,000	40,000
Mean	22,304	30,146	36,024
Std Dev	4,896	4,705	8,089
Count	98	36	47
MORE THAN 36 MONTHS			
Median	26,000	33,300	39,650
Mean	27,458	32,605	37,264
Std Dev	6,538	6,599	8,960
Count	64	46	54
TOTAL			
Median	22,500	30,000	40,000
Mean	22,627	29,601	36,848
Std Dev	5,263	6,306	8,741
Count	484	146	249

Table A-2

SALARIES of CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EXPERIENCE
1988 ACS Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK EXPERIENCE			
LESS THAN 12 MONTHS			
Median	31,000	33,000	44,400
Mean	29,744	33,037	41,626
Std Dev	3,435	3,950	7,293
Count	261	27	54
12 TO 36 MONTHS			
Median	31,800	34,100	44,000
Mean	31,154	33,983	41,532
Std Dev	2,465	3,321	8,530
Count	145	23	17
MORE THAN 36 MONTHS			
Median	32,000	40,000	44,200
Mean	30,376	40,948	43,522
Std Dev	9,323	7,239	6,957
Count	17	13	10
TOTAL			
Median	31,200	34,100	44,200
Mean	30,254	35,015	41,822
Std Dev	3,616	5,484	7,465
Count	423	63	81

Table A-3

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
in PRIVATE INDUSTRY by SEX and DEGREE
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	23,899	30,240	42,000
Mean	23,109	29,964	41,720
Std Dev	3,944	4,583	4,267
Count	128	26	87
WOMEN			
Median	22,500	26,000	40,900
Mean	22,963	26,267	40,888
Std Dev	4,418	5,027	2,346
Count	101	22	16
TOTAL			
Median	23,000	29,900	41,500
Mean	23,043	28,312	41,588
Std Dev	4,155	5,085	4,027
Count	229	48	103

Table A-4

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
in PRIVATE INDUSTRY by SEX and DEGREE
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	31,000	33,000	45,000
Mean	30,050	33,313	44,381
Std Dev	2,851	4,574	3,930
Count	201	23	37
WOMEN			
Median	31,200	34,400	44,750
Mean	30,757	34,086	42,675
Std Dev	3,009	970	8,064
Count	80	7	4
TOTAL			
Median	31,100	33,000	45,000
Mean	30,253	33,493	44,210
Std Dev	2,909	4,022	4,374
Count	281	30	41

Table A-5

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and SEX
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	22,500	29,900	40,700
Mean	21,944	28,333	37,418
Std Dev	4,335	5,101	8,967
Count	178	36	119
WOMEN			
Median	21,000	26,000	39,900
Mean	21,507	25,259	35,069
Std Dev	4,732	6,441	8,210
Count	144	28	27
TOTAL			
Median	21,916	27,700	40,500
Mean	21,743	27,023	36,975
Std Dev	4,520	5,864	8,849
Count	322	64	146

Table A-6

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	23,000	29,900	41,750
Mean	23,043	28,312	41,651
Std Dev	4,155	5,085	4,057
Count	229	48	104
COLLEGE OR UNIV			
Median	16,500	24,050	25,000
Mean	16,447	23,975	25,097
Std Dev	2,497	4,173	6,162
Count	16	4	33
HIGH SCHOOL			
Median	18,000	24,000	---
Mean	18,683	19,467	---
Std Dev	3,579	12,816	---
Count	8	4	0
FEDERAL GOVT			
Median	15,325	22,907	25,250
Mean	18,335	22,236	30,113
Std Dev	4,654	1,244	10,097
Count	14	3	8
MILITARY			
Median	20,000	---	---
Mean	19,245	---	---
Std Dev	4,934	---	---
Count	14	0	0
STATE OR LOCAL GOVT			
Median	19,560	19,000	---
Mean	20,323	19,000	---
Std Dev	2,973	0	---
Count	8	1	0
HOSPITAL OR LAB			
Median	18,000	22,740	25,000
Mean	17,941	22,740	25,000
Std Dev	2,618	2,461	7,071
Count	28	2	2
OTHER			
Median	22,360	32,240	17,000
Mean	22,405	32,240	17,000
Std Dev	3,085	0	0
Count	5	1	1
TOTAL			
Median	21,916	27,700	40,500
Mean	21,743	27,023	36,961
Std Dev	4,520	5,364	8,901
Count	322	63	148

Table A-7

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - MEN only
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	23,899	30,240	42,000
Mean	23,109	29,964	41,720
Std Dev	3,944	4,583	4,267
Count	128	26	87
COLLEGE OR UNIV			
Median	16,350	24,500	23,575
Mean	16,525	24,500	24,081
Std Dev	3,032	4,950	6,100
Count	8	2	25
HIGH SCHOOL			
Median	21,916	26,700	---
Mean	19,639	26,700	---
Std Dev	5,843	3,818	---
Count	3	2	0
FEDERAL GOVT			
Median	15,750	22,907	27,000
Mean	18,253	22,236	33,281
Std Dev	4,650	1,244	11,997
Count	8	3	5
MILITARY			
Median	20,121	---	---
Mean	20,293	---	---
Std Dev	4,258	---	---
Count	12	0	0
STATE OR LOCAL GOVT			
Median	19,100	19,000	---
Mean	19,493	19,000	---
Std Dev	2,490	0	---
Count	5	1	0
HOSPITAL OR LAB			
Median	18,000	24,480	25,000
Mean	17,681	24,480	25,000
Std Dev	2,434	0	7,071
Count	10	1	2
OTHER			
Median	20,000	---	---
Mean	21,633	---	---
Std Dev	3,272	---	---
Count	4	0	0
TOTAL			
Median	**22,500**	**29,900**	**40,700**
Mean	**21,944**	**28,333**	**37,418**
Std Dev	**4,335**	**5,101**	**8,967**
Count	**178**	**35**	**119**

Table A-8

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and EMPLOYER - WOMEN only
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	22,500	26,000	40,900
Mean	22,963	26,267	40,888
Std Dev	4,418	5,027	2,346
Count	101	22	16
COLLEGE OR UNIV			
Median	17,500	23,450	25,375
Mean	16,357	23,450	28,144
Std Dev	1,952	5,162	5,632
Count	8	2	8
HIGH SCHOOL			
Median	17,000	5,000	---
Mean	18,110	5,000	---
Std Dev	2,062	0	---
Count	5	2	0
FEDERAL GOVT			
Median	15,134	---	25,250
Mean	18,416	---	25,250
Std Dev	5,100	---	1,768
Count	6	0	2
MILITARY			
Median	13,480	---	---
Mean	13,480	---	---
Std Dev	5,685	---	---
Count	2	0	0
STATE OR LOCAL GOVT			
Median	19,920	---	---
Mean	21,707	---	---
Std Dev	3,736	---	---
Count	3	0	0
HOSPITAL OR LAB			
Median	18,000	21,000	---
Mean	18,072	21,000	---
Std Dev	2,764	0	---
Count	18	1	0
OTHER			
Median	24,720	32,240	17,000
Mean	24,720	32,240	17,000
Std Dev	0	0	0
Count	1	1	1
TOTAL			
Median	21,000	26,000	39,900
Mean	21,507	25,259	35,069
Std Dev	4,732	6,441	8,210
Count	144	28	27

Table A-9

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and WORK FUNCTION
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK FUNCTION			
TEACHING			
Median	19,000	27,100	26,413
Mean	19,533	22,700	27,215
Std Dev	4,765	10,091	4,627
Count	12	6	21
MGMT OR ADMIN			
Median	24,000	---	---
Mean	23,626	---	---
Std Dev	4,301	---	---
Count	21	0	0
BASIC RESEARCH			
Median	21,700	22,954	40,500
Mean	21,220	24,631	36,335
Std Dev	4,737	4,667	10,364
Count	65	11	49
APPLIED RESEARCH			
Median	22,800	30,480	41,450
Mean	22,490	29,099	40,930
Std Dev	4,073	5,275	5,422
Count	69	27	70
PRODUCTION			
Median	21,400	26,572	40,250
Mean	21,973	27,058	39,625
Std Dev	4,267	3,461	2,562
Count	91	16	4
OTHER			
Median	21,000	19,000	22,954
Mean	20,933	23,333	23,227
Std Dev	4,908	11,150	5,317
Count	64	3	4
TOTAL			
Median	21,916	27,700	40,500
Mean	21,743	27,023	36,961
Std Dev	4,520	5,864	8,901
Count	322	63	148

Table A-10

SALARIES of INEXPERIENCED B.S. CHEMISTS employed FULL-TIME
by EMPLOYER and CERTIFICATION
1988 Starting Salary Survey

	CURRICULUM APPROVED?		TOTAL
	YES	NO	
EMPLOYER			
PRIVATE INDUSTRY			
Median	24,000	22,500	23,000
Mean	23,496	22,614	23,043
Std Dev	3,964	4,302	4,155
Count	110	119	229
COLLEGE OR UNIV			
Median	15,000	17,000	16,500
Mean	14,733	16,875	16,447
Std Dev	1,617	2,542	2,497
Count	3	13	16
HIGH SCHOOL			
Median	---	18,000	18,000
Mean	---	18,683	18,683
Std Dev	---	3,579	3,579
Count	0	8	8
FEDERAL GOVT			
Median	21,700	15,150	15,325
Mean	20,606	17,577	18,335
Std Dev	5,031	4,568	4,654
Count	4	10	14
MILITARY			
Median	18,550	21,000	20,000
Mean	18,325	20,716	19,245
Std Dev	3,295	7,045	4,934
Count	9	5	14
STATE OR LOCAL GOVT			
Median	19,920	19,100	19,560
Mean	20,707	20,093	20,323
Std Dev	2,018	3,641	2,973
Count	3	5	8
HOSPITAL OR LAB			
Median	18,000	18,000	18,000
Mean	17,632	18,123	17,941
Std Dev	3,460	2,076	2,618
Count	11	17	28
OTHER			
Median	20,000	24,720	22,360
Mean	21,633	24,720	22,405
Std Dev	3,272	0	3,085
Count	3	2	5
TOTAL			
Median	22,900	21,000	21,916
Mean	22,417	21,199	21,743
Std Dev	4,387	4,564	4,520
Count	143	179	322

Table A-11

SALARIES of INEXPERIENCED MS and PhD CHEMISTS employed FULL-TIME
by DEGREE and DEGREE SPECIALTY
1988 Starting Salary Survey

	HIGHEST DEGREE	
	MS	PHD
DEGREE SPECIALTY		
BIOCHEMISTRY		
Median	21,350	23,000
Mean	20,438	24,000
Std Dev	6,943	4,583
Count	8	3
ANALYTICAL CHEM		
Median	28,950	40,500
Mean	28,062	37,898
Std Dev	5,851	7,629
Count	18	42
INORGANIC CHEM		
Median	27,144	39,075
Mean	26,281	33,850
Std Dev	1,995	9,901
Count	3	30
ORGANIC CHEM		
Median	29,000	41,400
Mean	28,343	39,939
Std Dev	4,128	7,474
Count	21	41
PHYSICAL CHEM		
Median	30,480	40,000
Mean	28,797	36,108
Std Dev	5,009	9,894
Count	8	21
POLYMER CHEM		
Median	31,450	40,500
Mean	31,450	37,886
Std Dev	2,899	8,713
Count	2	7
OTHER CHEM		
Median	22,600	33,400
Mean	23,200	31,200
Std Dev	8,516	11,788
Count	4	4
TOTAL		
Median	27,700	40,500
Mean	27,023	36,961
Std Dev	5,864	8,901
Count	64	148

Table A-12

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
by DEGREE and GEOGRAPHIC REGION
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
GEOGRAPHIC REGION			
Pacific			
Median	21,000	25,500	40,000
Mean	21,154	26,733	36,640
Std Dev	4,387	5,456	11,026
Count	28	3	10
Mountain			
Median	20,050	30,120	34,750
Mean	20,450	30,120	34,125
Std Dev	3,361	2,998	6,892
Count	8	2	4
West North Central			
Median	20,000	25,000	40,750
Mean	20,507	24,500	35,736
Std Dev	4,225	3,477	9,987
Count	26	3	15
West South Central			
Median	21,000	26,500	39,500
Mean	21,175	24,580	34,200
Std Dev	6,161	7,197	9,125
Count	23	6	10
East North Central			
Median	24,000	27,000	39,700
Mean	23,056	26,925	37,041
Std Dev	4,258	4,753	7,329
Count	85	13	32
East South Central			
Median	21,000	25,812	42,000
Mean	20,254	22,406	41,700
Std Dev	4,480	12,137	2,168
Count	12	4	5
Middle Atlantic			
Median	23,400	30,000	42,000
Mean	22,873	29,130	39,415
Std Dev	4,581	4,323	8,558
Count	68	19	30
South Atlantic			
Median	20,000	27,100	39,000
Mean	20,267	27,045	34,964
Std Dev	3,825	5,778	8,833
Count	33	9	26
New England			
Median	20,020	28,000	41,500
Mean	21,002	25,500	39,575
Std Dev	4,097	9,500	11,103
Count	25	3	13
TOTAL			
Median	22,000	27,650	40,500
Mean	21,858	26,973	37,116
Std Dev	4,542	5,900	8,839
Count	308	62	145

Table A-13

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and SEX
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	30,600	32,700	44,400
Mean	29,613	32,900	41,851
Std Dev	3,310	4,541	7,172
Count	221	26	53
WOMEN			
Median	31,200	34,400	44,000
Mean	30,273	34,086	42,140
Std Dev	3,459	970	7,085
Count	89	7	5
TOTAL			
Median	31,000	33,000	44,400
Mean	29,805	33,152	41,877
Std Dev	3,362	4,065	7,102
Count	310	33	58

Table A-14

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EMPLOYER
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	31,100	33,000	45,000
Mean	30,270	33,493	44,210
Std Dev	2,918	4,022	4,374
Count	282	30	41
COLLEGE OR UNIV			
Median	24,000	26,000	40,000
Mean	24,750	26,000	36,329
Std Dev	6,906	0	10,338
Count	3	1	13
FEDERAL GOVT			
Median	25,000	---	37,000
Mean	26,018	---	36,575
Std Dev	2,953	---	4,682
Count	5	0	4
MILITARY			
Median	24,000	---	---
Mean	25,000	---	---
Std Dev	3,464	---	---
Count	4	0	0
STATE OR LOCAL GOVT			
Median	25,000	---	---
Mean	25,321	---	---
Std Dev	1,024	---	---
Count	5	0	0
HOSPITAL OR LAB			
Median	15,900	---	---
Mean	15,900	---	---
Std Dev	141	---	---
Count	2	0	0
OTHER			
Median	28,574	31,600	---
Mean	27,691	31,600	---
Std Dev	3,575	566	---
Count	10	2	0
TOTAL			
Median	31,000	33,000	44,400
Mean	29,821	33,152	41,877
Std Dev	3,370	4,065	7,102
Count	311	33	58

Table A-15

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EMPLOYER - MEN only
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	31,000	33,000	45,000
Mean	30,050	33,313	44,381
Std Dev	2,851	4,574	3,930
Count	201	23	37
COLLEGE OR UNIV			
Median	32,000	26,000	38,000
Mean	32,000	26,000	36,023
Std Dev	0	0	10,736
Count	1	1	12
FEDERAL GOVT			
Median	24,694	---	37,000
Mean	24,722	---	36,575
Std Dev	662	---	4,682
Count	4	0	4
MILITARY			
Median	24,000	---	---
Mean	26,000	---	---
Std Dev	3,464	---	---
Count	3	0	0
STATE OR LOCAL GOVT			
Median	25,452	---	---
Mean	25,401	---	---
Std Dev	1,164	---	---
Count	4	0	0
HOSPITAL OR LAB			
Median	15,900	---	---
Mean	15,900	---	---
Std Dev	141	---	---
Count	2	0	0
OTHER			
Median	27,600	31,600	---
Mean	27,260	31,600	---
Std Dev	4,226	566	---
Count	6	2	0
TOTAL			
Median	30,600	32,700	44,400
Mean	29,613	32,900	41,851
Std Dev	3,310	4,541	7,172
Count	221	26	53

Table A-16

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and EMPLOYER - WOMEN only
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	31,200	34,400	44,750
Mean	30,757	34,086	42,675
Std Dev	3,009	970	8,064
Count	80	7	4
COLLEGE OR UNIV			
Median	21,125	---	40,000
Mean	21,125	---	40,000
Std Dev	4,066	---	0
Count	2	0	1
FEDERAL GOVT			
Median	31,200	---	---
Mean	31,200	---	---
Std Dev	0	---	---
Count	1	0	0
MILITARY			
Median	22,000	---	---
Mean	22,000	---	---
Std Dev	0	---	---
Count	1	0	0
STATE OR LOCAL GOVT			
Median	25,000	---	---
Mean	25,000	---	---
Std Dev	0	---	---
Count	1	0	0
HOSPITAL OR LAB			
Median	---	---	---
Mean	---	---	---
Std Dev	---	---	---
Count	0	0	0
OTHER			
Median	28,574	---	---
Mean	28,337	---	---
Std Dev	2,767	---	---
Count	4	0	0
TOTAL			
Median	31,200	34,400	44,000
Mean	30,273	34,086	42,140
Std Dev	3,459	970	7,085
Count	89	7	5

Table A-17

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and WORK FUNCTION
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK FUNCTION			
TEACHING			
Median	---	---	40,000
Mean	---	---	39,168
Std Dev	---	---	3,668
Count	0	0	4
MGMT OR ADMIN			
Median	30,000	---	45,000
Mean	28,938	---	45,000
Std Dev	2,773	---	0
Count	24	0	1
BASIC RESEARCH			
Median	24,000	32,000	42,000
Mean	23,933	32,000	37,575
Std Dev	8,100	0	11,726
Count	3	1	8
APPLIED RESEARCH			
Median	31,200	33,000	45,000
Mean	29,915	33,271	43,274
Std Dev	3,316	4,721	5,852
Count	113	24	43
PRODUCTION			
Median	31,200	33,500	31,200
Mean	30,296	33,260	31,200
Std Dev	2,898	823	0
Count	130	5	1
OTHER			
Median	30,000	31,200	36,000
Mean	28,975	32,400	36,000
Std Dev	4,295	2,254	0
Count	40	3	1
TOTAL			
Median	31,000	33,000	44,400
Mean	29,821	33,152	41,877
Std Dev	3,375	4,065	7,102
Count	310	33	58

Table A-18

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
by DEGREE and GEOGRAPHIC REGION
1988 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
GEOGRAPHIC REGION			
Pacific			
Median	30,900	33,500	47,000
Mean	30,363	34,100	46,475
Std Dev	2,947	2,510	2,596
Count	24	5	9
Mountain			
Median	29,000	33,850	35,500
Mean	29,000	33,850	33,750
Std Dev	1,000	6,859	6,850
Count	3	2	4
West North Central			
Median	30,900	---	40,000
Mean	28,688	---	37,640
Std Dev	5,000	---	8,194
Count	17	0	5
West South Central			
Median	31,200	33,000	34,000
Mean	31,078	33,050	36,767
Std Dev	1,751	1,080	7,257
Count	55	6	3
East North Central			
Median	30,750	32,000	46,500
Mean	29,561	32,000	39,780
Std Dev	3,118	3,937	11,515
Count	49	5	5
East South Central			
Median	30,000	---	---
Mean	28,311	---	---
Std Dev	5,870	---	---
Count	15	0	0
Middle Atlantic			
Median	30,000	33,500	45,000
Mean	29,463	35,050	44,925
Std Dev	3,771	5,925	1,085
Count	56	8	12
South Atlantic			
Median	31,200	34,200	44,400
Mean	30,314	33,867	43,280
Std Dev	3,055	757	5,372
Count	56	3	15
New England			
Median	30,000	28,500	40,000
Mean	28,926	28,875	37,000
Std Dev	2,928	2,955	11,944
Count	25	4	5
TOTAL			
Median	**31,000**	**33,000**	**44,400**
Mean	**29,859**	**33,152**	**41,877**
Std Dev	**3,371**	**4,065**	**7,102**
Count	**300**	**33**	**58**

Table B-1a

CHEMISTRY GRADUATES
by EMPLOYMENT STATUS, SEX, and DEGREE
1988 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FULL-TIME IN CHEMISTRY									
Count	269	215	484	89	58	147	204	44	248
Row Percent	55.6%	44.4%	100.0%	60.5%	39.5%	100.0%	82.3%	17.7%	100.0%
Column Percent	29.5%	32.3%	30.7%	48.4%	52.3%	49.8%	48.7%	47.3%	48.4%
FULL-TIME IN NON-CHEMISTRY									
Count	63	41	104	9	4	13	15	2	17
Row Percent	60.6%	39.4%	100.0%	69.2%	30.8%	100.0%	88.2%	11.8%	100.0%
Column Percent	6.9%	6.2%	6.6%	4.9%	3.6%	4.4%	3.6%	2.2%	3.3%
FELLOWSHIP									
Count	261	154	415	57	27	84	152	27	179
Row Percent	62.9%	37.1%	100.0%	67.9%	32.1%	100.0%	84.9%	15.1%	100.0%
Column Percent	28.6%	23.2%	26.3%	31.0%	24.3%	28.5%	36.3%	29.0%	35.0%
SEEKING EMPLOYMENT									
Count	54	70	124	12	7	19	41	16	57
Row Percent	43.5%	56.5%	100.0%	63.2%	36.8%	100.0%	71.9%	28.1%	100.0%
Column Percent	5.9%	10.5%	7.9%	6.5%	6.3%	6.4%	9.8%	17.2%	11.1%
NOT SEEKING EMPLOYMENT									
Count	264	185	449	17	15	32	7	4	11
Row Percent	58.8%	41.2%	100.0%	53.1%	46.9%	100.0%	63.6%	36.4%	100.0%
Column Percent	29.0%	27.8%	28.5%	9.2%	13.5%	10.8%	1.7%	4.3%	2.1%
TOTAL									
Count	911	665	1576	184	111	295	419	93	512
Row Percent	57.8%	42.2%	100.0%	62.4%	37.6%	100.0%	81.8%	18.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-1b

CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988, SEX, and DEGREE
1988 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
PURSUE ADVANCED STUDIES IN FALL 88									
YES, FULL-TIME									
Count	600	385	985	86	41	127	50	2	52
Row Percent	60.9%	39.1%	100.0%	67.7%	32.3%	100.0%	96.2%	3.8%	100.0%
Column Percent	59.9%	52.8%	56.9%	45.5%	36.0%	41.9%	12.4%	2.1%	10.4%
YES, PART-TIME									
Count	106	73	179	11	7	18	7	0	7
Row Percent	59.2%	40.8%	100.0%	61.1%	38.9%	100.0%	100.0%	.0%	100.0%
Column Percent	10.6%	10.0%	10.3%	5.8%	6.1%	5.9%	1.7%	.0%	1.4%
NO									
Count	295	271	566	92	66	158	347	92	439
Row Percent	52.1%	47.9%	100.0%	58.2%	41.8%	100.0%	79.0%	21.0%	100.0%
Column Percent	29.5%	37.2%	32.7%	48.7%	57.9%	52.1%	85.9%	97.9%	88.2%
TOTAL									
Count	1001	729	1730	189	114	303	404	94	498
Row Percent	57.9%	42.1%	100.0%	62.4%	37.6%	100.0%	81.1%	18.9%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-2a

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	458	12	14	1
Row Percent	94.4%	2.5%	2.9%	.2%
Column Percent	31.7%	15.4%	34.1%	11.1%
FULL-TIME IN NON-CHEMISTRY				
Count	101	2	1	0
Row Percent	97.1%	1.9%	1.0%	.0%
Column Percent	7.0%	2.6%	2.4%	.0%
FELLOWSHIP				
Count	389	16	4	5
Row Percent	94.0%	3.9%	1.0%	1.2%
Column Percent	26.9%	20.5%	9.8%	55.6%
SEEKING EMPLOYMENT				
Count	105	11	6	2
Row Percent	84.7%	8.9%	4.8%	1.6%
Column Percent	7.3%	14.1%	14.6%	22.2%
NOT SEEKING EMPLOYMENT				
Count	393	37	16	1
Row Percent	87.9%	8.3%	3.6%	.2%
Column Percent	27.2%	47.4%	39.0%	11.1%
TOTAL				
Count	1446	78	41	9
Row Percent	91.9%	5.0%	2.6%	.6%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2a Continued

MS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	131	7	5	4
Row Percent	89.1%	4.8%	3.4%	2.7%
Column Percent	54.8%	77.8%	41.7%	11.8%
FULL-TIME IN NON-CHEMISTRY				
Count	11	0	0	2
Row Percent	84.6%	.0%	.0%	15.4%
Column Percent	4.6%	.0%	.0%	5.9%
FELLOWSHIP				
Count	59	2	3	19
Row Percent	71.1%	2.4%	3.6%	22.9%
Column Percent	24.7%	22.2%	25.0%	55.9%
SEEKING EMPLOYMENT				
Count	11	0	2	6
Row Percent	57.9%	.0%	10.5%	31.6%
Column Percent	4.6%	.0%	16.7%	17.6%
NOT SEEKING EMPLOYMENT				
Count	27	0	2	3
Row Percent	84.4%	.0%	6.3%	9.4%
Column Percent	11.3%	.0%	16.7%	8.8%
TOTAL				
Count	239	9	12	34
Row Percent	81.3%	3.1%	4.1%	11.6%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2a Continued

PHD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	213	5	5	26
Row Percent	85.5%	2.0%	2.0%	10.4%
Column Percent	52.9%	41.7%	50.0%	29.5%
FULL-TIME IN NON-CHEMISTRY				
Count	15	1	0	1
Row Percent	88.2%	5.9%	.0%	5.9%
Column Percent	3.7%	8.3%	.0%	1.1%
FELLOWSHIP				
Count	137	4	2	36
Row Percent	76.5%	2.2%	1.1%	20.1%
Column Percent	34.0%	33.3%	20.0%	40.9%
SEEKING EMPLOYMENT				
Count	33	1	3	20
Row Percent	57.9%	1.8%	5.3%	35.1%
Column Percent	8.2%	8.3%	30.0%	22.7%
NOT SEEKING EMPLOYMENT				
Count	5	1	0	5
Row Percent	45.5%	9.1%	.0%	45.5%
Column Percent	1.2%	8.3%	.0%	5.7%
TOTAL				
Count	403	12	10	88
Row Percent	78.6%	2.3%	1.9%	17.2%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	884	66	24	8
Row Percent	90.0%	6.7%	2.4%	.8%
Column Percent	56.1%	70.2%	52.2%	72.7%
YES, PART-TIME				
Count	163	8	7	0
Row Percent	91.6%	4.5%	3.9%	.0%
Column Percent	10.3%	8.5%	15.2%	.0%
NO				
Count	529	20	15	3
Row Percent	93.3%	3.5%	2.6%	.5%
Column Percent	33.6%	21.3%	32.6%	27.3%
TOTAL				
Count	1576	94	46	11
Row Percent	91.3%	5.4%	2.7%	.6%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b Continued

MS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	91	2	5	28
Row Percent	72.2%	1.6%	4.0%	22.2%
Column Percent	37.1%	22.2%	41.7%	77.8%
YES, PART-TIME				
Count	15	1	2	0
Row Percent	83.3%	5.6%	11.1%	.0%
Column Percent	6.1%	11.1%	16.7%	.0%
NO				
Count	139	6	5	8
Row Percent	88.0%	3.8%	3.2%	5.1%
Column Percent	56.7%	66.7%	41.7%	22.2%
TOTAL				
Count	245	9	12	36
Row Percent	81.1%	3.0%	4.0%	11.9%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-2b Continued

PHD CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	28	0	2	22
Row Percent	53.8%	.0%	3.8%	42.3%
Column Percent	7.1%	.0%	20.0%	25.3%
YES, PART-TIME				
Count	6	0	0	1
Row Percent	85.7%	.0%	.0%	14.3%
Column Percent	1.5%	.0%	.0%	1.1%
NO				
Count	358	10	8	64
Row Percent	81.4%	2.3%	1.8%	14.5%
Column Percent	91.3%	100.0%	80.0%	73.6%
TOTAL				
Count	392	10	10	87
Row Percent	78.6%	2.0%	2.0%	17.4%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-3a

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	1	3	2	15	13	6	442	2
Row Percent	.2%	.6%	.4%	3.1%	2.7%	1.2%	91.3%	.4%
Column Percent	20.0%	7.5%	18.2%	28.8%	38.2%	20.7%	32.0%	12.5%
FULL-TIME IN NON-CHEMISTRY								
Count	1	3	3	0	2	1	90	2
Row Percent	1.0%	2.9%	2.9%	.0%	2.0%	1.0%	88.2%	2.0%
Column Percent	20.0%	7.5%	27.3%	.0%	5.9%	3.4%	6.5%	12.5%
FELLOWSHIP								
Count	0	16	1	12	2	6	373	3
Row Percent	.0%	3.9%	.2%	2.9%	.5%	1.5%	90.3%	.7%
Column Percent	.0%	40.0%	9.1%	23.1%	5.9%	20.7%	27.0%	18.8%
SEEKING EMPLOYMENT								
Count	0	5	1	6	4	6	99	2
Row Percent	.0%	4.1%	.8%	4.9%	3.3%	4.9%	80.5%	1.6%
Column Percent	.0%	12.5%	9.1%	11.5%	11.8%	20.7%	7.2%	12.5%
NOT SEEKING EMPLOYMENT								
Count	3	13	4	19	13	10	377	7
Row Percent	.7%	2.9%	.9%	4.3%	2.9%	2.2%	84.5%	1.6%
Column Percent	60.0%	32.5%	36.4%	36.5%	38.2%	34.5%	27.3%	43.8%
TOTAL								
Count	5	40	11	52	34	29	1381	16
Row Percent	.3%	2.6%	.7%	3.3%	2.2%	1.8%	88.1%	1.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3a Continued

MS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	0	4	3	3	3	4	127	1
Row Percent	.0%	2.8%	2.1%	2.1%	2.1%	2.8%	87.6%	.7%
Column Percent	.0%	18.2%	37.5%	30.0%	50.0%	44.4%	55.5%	16.7%
FULL-TIME IN NON-CHEMISTRY								
Count	0	0	0	1	0	0	10	1
Row Percent	.0%	.0%	.0%	8.3%	.0%	.0%	83.3%	8.3%
Column Percent	.0%	.0%	.0%	10.0%	.0%	.0%	4.4%	16.7%
FELLOWSHIP								
Count	0	15	3	4	0	3	54	4
Row Percent	.0%	18.1%	3.6%	4.8%	.0%	3.6%	65.1%	4.8%
Column Percent	.0%	68.2%	37.5%	40.0%	.0%	33.3%	23.6%	66.7%
SEEKING EMPLOYMENT								
Count	0	1	1	2	0	1	13	0
Row Percent	.0%	5.6%	5.6%	11.1%	.0%	5.6%	72.2%	.0%
Column Percent	.0%	4.5%	12.5%	20.0%	.0%	11.1%	5.7%	.0%
NOT SEEKING EMPLOYMENT								
Count	0	2	1	0	3	1	25	0
Row Percent	.0%	6.3%	3.1%	.0%	9.4%	3.1%	78.1%	.0%
Column Percent	.0%	9.1%	12.5%	.0%	50.0%	11.1%	10.9%	.0%
TOTAL								
Count	0	22	8	10	6	9	229	6
Row Percent	.0%	7.6%	2.8%	3.4%	2.1%	3.1%	79.0%	2.1%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3a Continued

PHD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	1	20	2	8	4	7	204	1
Row Percent	.4%	8.1%	.8%	3.2%	1.6%	2.8%	82.6%	.4%
Column Percent	100.0%	46.5%	15.4%	28.6%	66.7%	50.0%	50.7%	50.0%
FULL-TIME IN NON-CHEMISTRY								
Count	0	0	1	0	0	1	15	0
Row Percent	.0%	.0%	5.9%	.0%	.0%	5.9%	88.2%	.0%
Column Percent	.0%	.0%	7.7%	.0%	.0%	7.1%	3.7%	.0%
FELLOWSHIP								
Count	0	12	7	15	2	3	139	0
Row Percent	.0%	6.7%	3.9%	8.4%	1.1%	1.7%	78.1%	.0%
Column Percent	.0%	27.9%	53.8%	53.6%	33.3%	21.4%	34.6%	.0%
SEEKING EMPLOYMENT								
Count	0	8	2	5	0	2	38	1
Row Percent	.0%	14.3%	3.6%	8.9%	.0%	3.6%	67.9%	1.8%
Column Percent	.0%	18.6%	15.4%	17.9%	.0%	14.3%	9.5%	50.0%
NOT SEEKING EMPLOYMENT								
Count	0	3	1	0	0	1	6	0
Row Percent	.0%	27.3%	9.1%	.0%	.0%	9.1%	54.5%	.0%
Column Percent	.0%	7.0%	7.7%	.0%	.0%	7.1%	1.5%	.0%
TOTAL								
Count	1	43	13	28	6	14	402	2
Row Percent	.2%	8.4%	2.6%	5.5%	1.2%	2.8%	79.0%	.4%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME								
Count	4	40	8	38	18	20	842	10
Row Percent	.4%	4.1%	.8%	3.9%	1.8%	2.0%	85.9%	1.0%
Column Percent	57.1%	76.9%	61.5%	63.3%	46.2%	60.6%	56.2%	58.8%
YES, PART-TIME								
Count	1	1	2	5	7	0	159	2
Row Percent	.6%	.6%	1.1%	2.8%	4.0%	.0%	89.8%	1.1%
Column Percent	14.3%	1.9%	15.4%	8.3%	17.9%	.0%	10.6%	11.8%
NO								
Count	2	11	3	17	14	13	497	5
Row Percent	.4%	2.0%	.5%	3.0%	2.5%	2.3%	88.4%	.9%
Column Percent	28.6%	21.2%	23.1%	28.3%	35.9%	39.4%	33.2%	29.4%
TOTAL								
Count	7	52	13	60	39	33	1498	17
Row Percent	.4%	3.0%	.8%	3.5%	2.3%	1.9%	87.1%	1.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3b Continued

MS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME								
Count	0	19	5	5	2	5	85	5
Row Percent	.0%	15.1%	4.0%	4.0%	1.6%	4.0%	67.5%	4.0%
Column Percent	.0%	82.6%	62.5%	50.0%	33.3%	55.6%	36.0%	83.3%
YES, PART-TIME								
Count	0	1	0	0	1	1	14	1
Row Percent	.0%	5.6%	.0%	.0%	5.6%	5.6%	77.8%	5.6%
Column Percent	.0%	4.3%	.0%	.0%	16.7%	11.1%	5.9%	16.7%
NO								
Count	0	3	3	5	3	3	137	0
Row Percent	.0%	1.9%	1.9%	3.2%	1.9%	1.9%	89.0%	.0%
Column Percent	.0%	13.0%	37.5%	50.0%	50.0%	33.3%	58.1%	.0%
TOTAL								
Count	0	23	8	10	6	9	236	6
Row Percent	.0%	7.7%	2.7%	3.4%	2.0%	3.0%	79.2%	2.0%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3b Continued

PHD CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME								
Count	0	10	5	6	1	2	28	0
Row Percent	.0%	19.2%	9.6%	11.5%	1.9%	3.8%	53.8%	.0%
Column Percent	.0%	22.7%	41.7%	20.7%	16.7%	13.3%	7.2%	.0%
YES, PART-TIME								
Count	0	0	1	0	0	0	6	0
Row Percent	.0%	.0%	14.3%	.0%	.0%	.0%	85.7%	.0%
Column Percent	.0%	.0%	8.3%	.0%	.0%	.0%	1.6%	.0%
NO								
Count	1	34	6	23	5	13	353	2
Row Percent	.2%	7.8%	1.4%	5.3%	1.1%	3.0%	80.8%	.5%
Column Percent	100.0%	77.3%	50.0%	79.3%	83.3%	86.7%	91.2%	100.0%
TOTAL								
Count	1	44	12	29	6	15	387	2
Row Percent	.2%	8.9%	2.4%	5.8%	1.2%	3.0%	78.0%	.4%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-4a

BS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and CERTIFICATION
1988 Starting Salary Survey

	CURRICULUM APPROVED?	
	YES	NO
FULL-TIME IN CHEMISTRY		
Count	225	261
Row Percent	46.3%	53.7%
Column Percent	31.5%	30.2%
FULL-TIME IN NON-CHEMISTRY		
Count	32	72
Row Percent	30.8%	69.2%
Column Percent	4.5%	8.3%
FELLOWSHIP		
Count	262	153
Row Percent	63.1%	36.9%
Column Percent	36.7%	17.7%
SEEKING EMPLOYMENT		
Count	45	79
Row Percent	36.3%	63.7%
Column Percent	6.3%	9.1%
NOT SEEKING EMPLOYMENT		
Count	150	299
Row Percent	33.4%	66.6%
Column Percent	21.0%	34.6%
TOTAL		
Count	714	864
Row Percent	45.2%	54.8%
Column Percent	100.0%	100.0%

Table B-4b

BS CHEMISTRY GRADUATES
by PLANS FOR FURTHER STUDIES AND CERTIFICATION
1988 Starting Salary Survey

	CURRICULUM APPROVED?	
	YES	NO
PURSUE ADVANCED STUDIES IN FALL 88		
YES, FULL-TIME		
Count	444	541
Row Percent	45.1%	54.9%
Column Percent	59.0%	55.2%
YES, PART-TIME		
Count	81	98
Row Percent	45.3%	54.7%
Column Percent	10.8%	10.0%
NO		
Count	228	341
Row Percent	40.1%	59.9%
Column Percent	30.3%	34.8%
TOTAL		
Count	753	980
Row Percent	43.5%	56.5%
Column Percent	100.0%	100.0%

Table B-5

MASTERS CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and DEGREE SPECIALTY
1988 Starting Salary Survey

	EMPLOYMENT STATUS					TOTAL
	FT IN CHEM	FT IN NONCHEM	FELLOW-SHIP	SEEKING EMPL	NOT SEEK EMPL	
FIELD OF HIGHEST DEGREE						
BIOCHEMISTRY						
Count	15	0	10	1	4	30
Row Percent	50.0%	.0%	33.3%	3.3%	13.3%	100.0%
Column Percent	12.1%	.0%	13.2%	8.3%	14.8%	12.0%
ANALYTICAL CHEM						
Count	43	3	13	3	3	65
Row Percent	66.2%	4.6%	20.0%	4.6%	4.6%	100.0%
Column Percent	34.7%	27.3%	17.1%	25.0%	11.1%	26.0%
INORGANIC CHEM						
Count	6	1	7	1	4	19
Row Percent	31.6%	5.3%	36.8%	5.3%	21.1%	100.0%
Column Percent	4.8%	9.1%	9.2%	8.3%	14.8%	7.6%
ORGANIC CHEM						
Count	31	2	22	3	8	66
Row Percent	47.0%	3.0%	33.3%	4.5%	12.1%	100.0%
Column Percent	25.0%	18.2%	28.9%	25.0%	29.6%	26.4%
PHYSICAL CHEM						
Count	9	3	16	2	5	35
Row Percent	25.7%	8.6%	45.7%	5.7%	14.3%	100.0%
Column Percent	7.3%	27.3%	21.1%	16.7%	18.5%	14.0%
POLYMER CHEM						
Count	11	0	3	1	2	17
Row Percent	64.7%	.0%	17.6%	5.9%	11.8%	100.0%
Column Percent	8.9%	.0%	3.9%	8.3%	7.4%	6.8%
OTHER CHEM						
Count	9	2	5	1	1	18
Row Percent	50.0%	11.1%	27.8%	5.6%	5.6%	100.0%
Column Percent	7.3%	18.2%	6.6%	8.3%	3.7%	7.2%
TOTAL						
Count	124	11	76	12	27	250
Row Percent	49.6%	4.4%	30.4%	4.8%	10.8%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-6

PHD CHEMISTRY GRADUATES
by EMPLOYMENT STATUS and DEGREE SPECIALTY
1988 Starting Salary Survey

	FT IN CHEM	FT IN NONCHEM	FELLOW-SHIP	SEEKING EMPL	NOT SEEK EMPL	TOTAL
FIELD OF HIGHEST DEGREE						
BIOCHEMISTRY						
Count	10	0	22	1	1	34
Row Percent	29.4%	.0%	64.7%	2.9%	2.9%	100.0%
Column Percent	4.0%	.0%	12.3%	1.8%	9.1%	6.6%
ANALYTICAL CHEM						
Count	72	3	17	10	1	103
Row Percent	69.9%	2.9%	16.5%	9.7%	1.0%	100.0%
Column Percent	28.8%	17.6%	9.5%	17.5%	9.1%	20.0%
INORGANIC CHEM						
Count	39	2	28	16	3	88
Row Percent	44.3%	2.3%	31.8%	18.2%	3.4%	100.0%
Column Percent	15.6%	11.8%	15.6%	28.1%	27.3%	17.1%
ORGANIC CHEM						
Count	75	1	63	17	4	160
Row Percent	46.9%	.6%	39.4%	10.6%	2.5%	100.0%
Column Percent	30.0%	5.9%	35.2%	29.8%	36.4%	31.1%
PHYSICAL CHEM						
Count	39	9	43	12	2	105
Row Percent	37.1%	8.6%	41.0%	11.4%	1.9%	100.0%
Column Percent	15.6%	52.9%	24.0%	21.1%	18.2%	20.4%
POLYMER CHEM						
Count	10	1	3	1	0	15
Row Percent	66.7%	6.7%	20.0%	6.7%	.0%	100.0%
Column Percent	4.0%	5.9%	1.7%	1.8%	.0%	2.9%
OTHER CHEM						
Count	5	1	3	0	0	9
Row Percent	55.6%	11.1%	33.3%	.0%	.0%	100.0%
Column Percent	2.0%	5.9%	1.7%	.0%	.0%	1.8%
TOTAL						
Count	250	17	179	57	11	514
Row Percent	48.6%	3.3%	34.8%	11.1%	2.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-7a

CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS, SEX, and DEGREE
1988 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FULL-TIME IN CHEMISTRY									
Count	349	153	502	61	11	72	80	7	87
Row Percent	69.5%	30.5%	100.0%	84.7%	15.3%	100.0%	92.0%	8.0%	100.0%
Column Percent	63.1%	65.9%	63.9%	51.3%	42.3%	49.7%	74.8%	50.0%	71.9%
FULL-TIME IN NON-CHEMISTRY									
Count	69	33	102	10	2	12	9	0	9
Row Percent	67.6%	32.4%	100.0%	83.3%	16.7%	100.0%	100.0%	.0%	100.0%
Column Percent	12.5%	14.2%	13.0%	8.4%	7.7%	8.3%	8.4%	.0%	7.4%
FELLOWSHIP									
Count	61	12	73	34	6	40	12	3	15
Row Percent	83.6%	16.4%	100.0%	85.0%	15.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	11.0%	5.2%	9.3%	28.6%	23.1%	27.6%	11.2%	21.4%	12.4%
SEEKING EMPLOYMENT									
Count	43	17	60	8	3	11	4	4	8
Row Percent	71.7%	28.3%	100.0%	72.7%	27.3%	100.0%	50.0%	50.0%	100.0%
Column Percent	7.8%	7.3%	7.6%	6.7%	11.5%	7.6%	3.7%	28.6%	6.6%
NOT SEEKING EMPLOYMENT									
Count	31	17	48	6	4	10	2	0	2
Row Percent	64.6%	35.4%	100.0%	60.0%	40.0%	100.0%	100.0%	.0%	100.0%
Column Percent	5.6%	7.3%	6.1%	5.0%	15.4%	6.9%	1.9%	.0%	1.7%
TOTAL									
Count	553	232	785	119	26	145	107	14	121
Row Percent	70.4%	29.6%	100.0%	82.1%	17.9%	100.0%	88.4%	11.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-7b

CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988, SEX, and DEGREE
1988 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
PURSUE ADVANCED STUDIES IN FALL 88									
YES, FULL-TIME									
Count	107	28	135	44	9	53	3	0	3
Row Percent	79.3%	20.7%	100.0%	83.0%	17.0%	100.0%	100.0%	.0%	100.0%
Column Percent	18.8%	11.9%	16.8%	36.7%	33.3%	36.1%	3.0%	.0%	2.7%
YES, PART-TIME									
Count	93	37	130	10	1	11	3	0	3
Row Percent	71.5%	28.5%	100.0%	90.9%	9.1%	100.0%	100.0%	.0%	100.0%
Column Percent	16.3%	15.7%	16.1%	8.3%	3.7%	7.5%	3.0%	.0%	2.7%
NO									
Count	369	171	540	66	17	83	95	12	107
Row Percent	68.3%	31.7%	100.0%	79.5%	20.5%	100.0%	88.8%	11.2%	100.0%
Column Percent	64.9%	72.5%	67.1%	55.0%	63.0%	56.5%	94.1%	100.0%	94.7%
TOTAL									
Count	569	236	805	120	27	147	101	12	113
Row Percent	70.7%	29.3%	100.0%	81.6%	18.4%	100.0%	89.4%	10.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-8a

BS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	476	17	7	3
Row Percent	94.6%	3.4%	1.4%	.6%
Column Percent	64.7%	60.7%	58.3%	30.0%
FULL-TIME IN NON-CHEMISTRY				
Count	98	3	0	0
Row Percent	97.0%	3.0%	.0%	.0%
Column Percent	13.3%	10.7%	.0%	.0%
FELLOWSHIP				
Count	66	4	1	2
Row Percent	90.4%	5.5%	1.4%	2.7%
Column Percent	9.0%	14.3%	8.3%	20.0%
SEEKING EMPLOYMENT				
Count	55	0	3	2
Row Percent	91.7%	.0%	5.0%	3.3%
Column Percent	7.5%	.0%	25.0%	20.0%
NOT SEEKING EMPLOYMENT				
Count	41	4	1	3
Row Percent	83.7%	8.2%	2.0%	6.1%
Column Percent	5.6%	14.3%	8.3%	30.0%
TOTAL				
Count	736	28	12	10
Row Percent	93.6%	3.6%	1.5%	1.3%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8a Continued

MS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	59	6	3	4
Row Percent	81.9%	8.3%	4.2%	5.6%
Column Percent	57.8%	75.0%	100.0%	12.5%
FULL-TIME IN NON-CHEMISTRY				
Count	12	0	0	0
Row Percent	100.0%	.0%	.0%	.0%
Column Percent	11.8%	.0%	.0%	.0%
FELLOWSHIP				
Count	22	1	0	17
Row Percent	55.0%	2.5%	.0%	42.5%
Column Percent	21.6%	12.5%	.0%	53.1%
SEEKING EMPLOYMENT				
Count	5	1	0	5
Row Percent	45.5%	9.1%	.0%	45.5%
Column Percent	4.9%	12.5%	.0%	15.6%
NOT SEEKING EMPLOYMENT				
Count	4	0	0	6
Row Percent	40.0%	.0%	.0%	60.0%
Column Percent	3.9%	.0%	.0%	18.8%
TOTAL				
Count	102	8	3	32
Row Percent	70.3%	5.5%	2.1%	22.1%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8a Continued

PHD CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS				
FULL-TIME IN CHEMISTRY				
Count	64	4	5	14
Row Percent	73.6%	4.6%	5.7%	16.1%
Column Percent	80.0%	80.0%	100.0%	45.2%
FULL-TIME IN NON-CHEMISTRY				
Count	6	1	0	2
Row Percent	66.7%	11.1%	.0%	22.2%
Column Percent	7.5%	20.0%	.0%	6.5%
FELLOWSHIP				
Count	6	0	0	9
Row Percent	40.0%	.0%	.0%	60.0%
Column Percent	7.5%	.0%	.0%	29.0%
SEEKING EMPLOYMENT				
Count	4	0	0	4
Row Percent	50.0%	.0%	.0%	50.0%
Column Percent	5.0%	.0%	.0%	12.9%
NOT SEEKING EMPLOYMENT				
Count	0	0	0	2
Row Percent	.0%	.0%	.0%	100.0%
Column Percent	.0%	.0%	.0%	6.5%
TOTAL				
Count	80	5	5	31
Row Percent	66.1%	4.1%	4.1%	25.6%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b

BS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	119	9	3	5
Row Percent	87.5%	6.6%	2.2%	3.7%
Column Percent	15.8%	31.0%	23.1%	50.0%
YES, PART-TIME				
Count	119	6	5	0
Row Percent	91.5%	4.6%	3.8%	.0%
Column Percent	15.8%	20.7%	38.5%	.0%
NO				
Count	515	14	5	5
Row Percent	95.5%	2.6%	.9%	.9%
Column Percent	68.4%	48.3%	38.5%	50.0%
TOTAL				
Count	753	29	13	10
Row Percent	93.5%	3.6%	1.6%	1.2%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b Continued

MS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	24	2	0	27
Row Percent	45.3%	3.8%	.0%	50.9%
Column Percent	23.3%	25.0%	.0%	81.8%
YES, PART-TIME				
Count	9	0	1	1
Row Percent	81.8%	.0%	9.1%	9.1%
Column Percent	8.7%	.0%	33.3%	3.0%
NO				
Count	70	6	2	5
Row Percent	84.3%	7.2%	2.4%	6.0%
Column Percent	68.0%	75.0%	66.7%	15.2%
TOTAL				
Count	103	8	3	33
Row Percent	70.1%	5.4%	2.0%	22.4%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-8b Continued

PHD CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and CITIZENSHIP
1988 Starting Salary Survey

	CITIZENSHIP			
	U.S. NATIVE	U.S. NATURAL-IZED	U.S. PERMANENT RESIDENT	OTHER VISA
PURSUE ADVANCED STUDIES IN FALL 88				
YES, FULL-TIME				
Count	1	0	0	2
Row Percent	33.3%	.0%	.0%	66.7%
Column Percent	1.3%	.0%	.0%	7.4%
YES, PART-TIME				
Count	1	0	0	2
Row Percent	33.3%	.0%	.0%	66.7%
Column Percent	1.3%	.0%	.0%	7.4%
NO				
Count	74	5	5	23
Row Percent	69.2%	4.7%	4.7%	21.5%
Column Percent	97.4%	100.0%	100.0%	85.2%
TOTAL				
Count	76	5	5	27
Row Percent	67.3%	4.4%	4.4%	23.9%
Column Percent	100.0%	100.0%	100.0%	100.0%

Table B-9a

BS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	3	9	2	14	13	4	455	3
Row Percent	.6%	1.8%	.4%	2.8%	2.6%	.8%	90.5%	.6%
Column Percent	37.5%	64.3%	66.7%	58.3%	68.4%	30.8%	65.2%	50.0%
FULL-TIME IN NON-CHEMISTRY								
Count	3	0	0	2	0	5	87	3
Row Percent	3.0%	.0%	.0%	2.0%	.0%	5.0%	87.0%	3.0%
Column Percent	37.5%	.0%	.0%	8.3%	.0%	38.5%	12.5%	50.0%
FELLOWSHIP								
Count	0	2	0	4	3	0	64	0
Row Percent	.0%	2.7%	.0%	5.5%	4.1%	.0%	87.7%	.0%
Column Percent	.0%	14.3%	.0%	16.7%	15.8%	.0%	9.2%	.0%
SEEKING EMPLOYMENT								
Count	1	1	0	1	0	3	54	0
Row Percent	1.7%	1.7%	.0%	1.7%	.0%	5.0%	90.0%	.0%
Column Percent	12.5%	7.1%	.0%	4.2%	.0%	23.1%	7.7%	.0%
NOT SEEKING EMPLOYMENT								
Count	1	2	1	[illegible]	3	1	38	0
Row Percent	2.0%	4.1%	2.0%	6.[illegible]%	6.1%	2.0%	77.6%	.0%
Column Percent	12.5%	14.3%	33.3%	12.[illegible]%	15.8%	7.7%	5.4%	.0%
TOTAL								
Count	8	14	3	24	19	13	698	6
Row Percent	1.0%	1.8%	.4%	3.1%	2.4%	1.7%	88.9%	.8%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9a Continued

MS CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	0	4	4	2	1	2	57	1
Row Percent	.0%	5.6%	5.6%	2.8%	1.4%	2.8%	80.3%	1.4%
Column Percent	.0%	30.8%	44.4%	33.3%	100.0%	40.0%	54.3%	25.0%
FULL-TIME IN NON-CHEMISTRY								
Count	0	0	0	0	0	1	10	1
Row Percent	.0%	.0%	.0%	.0%	.0%	8.3%	83.3%	8.3%
Column Percent	.0%	.0%	.0%	.0%	.0%	20.0%	9.5%	25.0%
FELLOWSHIP								
Count	0	5	4	2	0	1	27	1
Row Percent	.0%	12.5%	10.0%	5.0%	.0%	2.5%	67.5%	2.5%
Column Percent	.0%	38.5%	44.4%	33.3%	.0%	20.0%	25.7%	25.0%
SEEKING EMPLOYMENT								
Count	0	3	1	1	0	0	5	1
Row Percent	.0%	27.3%	9.1%	9.1%	.0%	.0%	45.5%	9.1%
Column Percent	.0%	23.1%	11.1%	16.7%	.0%	.0%	4.8%	25.0%
NOT SEEKING EMPLOYMENT								
Count	0	1	0	1	0	1	6	0
Row Percent	.0%	11.1%	.0%	11.1%	.0%	11.1%	66.7%	.0%
Column Percent	.0%	7.7%	.0%	16.7%	.0%	20.0%	5.7%	.0%
TOTAL								
Count	0	13	9	6	1	5	105	4
Row Percent	.0%	9.1%	6.3%	4.2%	.7%	3.5%	73.4%	2.8%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9a Continued

PHD CHEMICAL ENGINEERING GRADUATES
by EMPLOYMENT STATUS and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
FULL-TIME IN CHEMISTRY								
Count	0	10	5	5	1	1	64	0
Row Percent	.0%	11.6%	5.8%	5.8%	1.2%	1.2%	74.4%	.0%
Column Percent	.0%	62.5%	45.5%	62.5%	50.0%	100.0%	79.0%	.0%
FULL-TIME IN NON-CHEMISTRY								
Count	0	1	2	0	0	0	6	0
Row Percent	.0%	11.1%	22.2%	.0%	.0%	.0%	66.7%	.0%
Column Percent	.0%	6.3%	18.2%	.0%	.0%	.0%	7.4%	.0%
FELLOWSHIP								
Count	0	3	4	2	1	0	4	0
Row Percent	.0%	21.4%	28.6%	14.3%	7.1%	.0%	28.6%	.0%
Column Percent	.0%	18.8%	36.4%	25.0%	50.0%	.0%	4.9%	.0%
SEEKING EMPLOYMENT								
Count	0	2	0	0	0	0	6	0
Row Percent	.0%	25.0%	.0%	.0%	.0%	.0%	75.0%	.0%
Column Percent	.0%	12.5%	.0%	.0%	.0%	.0%	7.4%	.0%
NOT SEEKING EMPLOYMENT								
Count	0	0	0	1	0	0	1	0
Row Percent	.0%	.0%	.0%	50.0%	.0%	.0%	50.0%	.0%
Column Percent	.0%	.0%	.0%	12.5%	.0%	.0%	1.2%	.0%
TOTAL								
Count	0	16	11	8	2	1	81	0
Row Percent	.0%	13.4%	9.2%	6.7%	1.7%	.8%	68.1%	.0%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	.0%

Table B-9b

BS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME								
Count	2	5	1	6	5	1	116	0
Row Percent	1.5%	3.7%	.7%	4.4%	3.7%	.7%	85.3%	.0%
Column Percent	25.0%	33.3%	33.3%	25.0%	25.0%	7.7%	16.2%	.0%
YES, PART-TIME								
Count	1	0	0	7	5	1	112	4
Row Percent	.8%	.0%	.0%	5.4%	3.8%	.8%	86.2%	3.1%
Column Percent	12.5%	.0%	.0%	29.2%	25.0%	7.7%	15.6%	66.7%
NO								
Count	5	10	2	11	10	11	488	2
Row Percent	.9%	1.9%	.4%	2.0%	1.9%	2.0%	90.5%	.4%
Column Percent	62.5%	66.7%	66.7%	45.8%	50.0%	84.6%	68.2%	33.3%
TOTAL								
Count	8	15	3	24	20	13	716	6
Row Percent	1.0%	1.9%	.4%	3.0%	2.5%	1.6%	88.9%	.7%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9b Continued

MS CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME								
Count	0	9	5	3	0	2	31	2
Row Percent	.0%	17.3%	9.6%	5.8%	.0%	3.8%	59.6%	3.8%
Column Percent	.0%	69.2%	55.6%	50.0%	.0%	40.0%	29.2%	50.0%
YES, PART-TIME								
Count	0	0	0	0	0	1	9	0
Row Percent	.0%	.0%	.0%	.0%	.0%	10.0%	90.0%	.0%
Column Percent	.0%	.0%	.0%	.0%	.0%	20.0%	8.5%	.0%
NO								
Count	0	4	4	3	1	2	66	2
Row Percent	.0%	4.9%	4.9%	3.7%	1.2%	2.4%	80.5%	2.4%
Column Percent	.0%	30.8%	44.4%	50.0%	100.0%	40.0%	62.3%	50.0%
TOTAL								
Count	0	13	9	6	1	5	106	4
Row Percent	.0%	9.0%	6.3%	4.2%	.7%	3.5%	73.6%	2.8%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9b Continued

PHD CHEMICAL ENGINEERING GRADUATES
by PLANS FOR FURTHER STUDIES IN FALL 1988 and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP							
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER
PURSUE ADVANCED STUDIES IN FALL 88								
YES, FULL-TIME								
Count	0	1	1	0	0	0	1	0
Row Percent	.0%	33.3%	33.3%	.0%	.0%	.0%	33.3%	.0%
Column Percent	.0%	6.3%	12.5%	.0%	.0%	.0%	1.3%	.0%
YES, PART-TIME								
Count	0	1	0	1	0	0	1	0
Row Percent	.0%	33.3%	.0%	33.3%	.0%	.0%	33.3%	.0%
Column Percent	.0%	6.3%	.0%	14.3%	.0%	.0%	1.3%	.0%
NO								
Count	0	14	7	6	2	1	76	0
Row Percent	.0%	13.2%	6.6%	5.7%	1.9%	.9%	71.7%	.0%
Column Percent	.0%	87.5%	87.5%	85.7%	100.0%	100.0%	97.4%	.0%
TOTAL								
Count	0	16	8	7	2	1	78	0
Row Percent	.0%	14.3%	7.1%	6.	1.8%	.9%	69.6%	.0%
Column Percent	.0%	100.0%	100.0%	100.	100.0%	100.0%	100.0%	.0%

Table C-1

BS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	51	27	78
Row Percent	65.4%	34.6%	100.0%
Column Percent	49.5%	38.0%	44.8%
PHYSICAL SCI OR MATH	4	2	6
Row Percent	66.7%	33.3%	100.0%
Column Percent	3.9%	2.8%	3.4%
CHEM OR BIOCHEM ENG	4	0	4
Row Percent	100.0%	.0%	100.0%
Column Percent	3.9%	.0%	2.3%
OTHER ENGINEERING	3	1	4
Row Percent	75.0%	25.0%	100.0%
Column Percent	2.9%	1.4%	2.3%
BIOCHEMISTRY	12	9	21
Row Percent	57.1%	42.9%	100.0%
Column Percent	11.7%	12.7%	12.1%
LIFE SCIENCE	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.8%	1.1%
MEDICINE	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	3.9%	1.4%	2.9%
PHARMACY	0	3	3
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	4.2%	1.7%
BUSINESS MANAGEMENT	13	19	32
Row Percent	40.6%	59.4%	100.0%
Column Percent	12.6%	26.8%	18.4%
EDUCATION	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	1.9%	.0%	1.1%
LAW	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	1.0%	1.4%	1.1%
OTHER	9	6	15
Row Percent	60.0%	40.0%	100.0%
Column Percent	8.7%	8.5%	8.6%
TOTAL	103	71	174
Row Percent	59.2%	40.8%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-1 Continued

MS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	3	5	8
Row Percent	37.5%	62.5%	100.0%
Column Percent	27.3%	71.4%	44.4%
PHYSICAL SCI OR MATH	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	18.2%	.0%	11.1%
CHEM OR BIOCHEM ENG	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
OTHER ENGINEERING	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	14.3%	5.6%
BIOCHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LIFE SCIENCE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BUSINESS MANAGEMENT	4	0	4
Row Percent	100.0%	.0%	100.0%
Column Percent	36.4%	.0%	22.2%
EDUCATION	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	9.1%	14.3%	11.1%
LAW	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	9.1%	.0%	5.6%
OTHER	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
TOTAL	11	7	18
Row Percent	61.1%	38.9%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-1 Continued

PHD CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	28.6%	.0%	28.6%
PHYSICAL SCI OR MATH	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	14.3%	.0%	14.3%
CHEM OR BIOCHEM ENG	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
OTHER ENGINEERING	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BIOCHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LIFE SCIENCE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BUSINESS MANAGEMENT	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	42.9%	.0%	42.9%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	14.3%	.0%	14.3%
OTHER	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
TOTAL	7	0	7
Row Percent	100.0%	.0%	100.0%
Column Percent	100.0%	.0%	100.0%

Table C-2

BS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDIES and CERTIFICATION
1988 Starting Salary Survey

	CURRICULUM APPROVED?		TOTAL
	YES	NO	
FIELD OF FURTHER STUDIES			
CHEMISTRY	39	39	78
Row Percent	50.0%	50.0%	100.0%
Column Percent	48.8%	41.5%	44.8%
PHYSICAL SCI OR MATH	3	3	6
Row Percent	50.0%	50.0%	100.0%
Column Percent	3.8%	3.2%	3.4%
CHEM OR BIOCHEM ENG	3	1	4
Row Percent	75.0%	25.0%	100.0%
Column Percent	3.8%	1.1%	2.3%
OTHER ENGINEERING	1	3	4
Row Percent	25.0%	75.0%	100.0%
Column Percent	1.3%	3.2%	2.3%
BIOCHEMISTRY	7	14	21
Row Percent	33.3%	66.7%	100.0%
Column Percent	8.8%	14.9%	12.1%
LIFE SCIENCE	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.1%	1.1%
MEDICINE	2	3	5
Row Percent	40.0%	60.0%	100.0%
Column Percent	2.5%	3.2%	2.9%
PHARMACY	2	1	3
Row Percent	66.7%	33.3%	100.0%
Column Percent	2.5%	1.1%	1.7%
BUSINESS MANAGEMENT	13	19	32
Row Percent	40.6%	59.4%	100.0%
Column Percent	16.3%	20.2%	18.4%
EDUCATION	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.1%	1.1%
LAW	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	2.5%	.0%	1.1%
OTHER	8	7	15
Row Percent	53.3%	46.7%	100.0%
Column Percent	10.0%	7.4%	8.6%
TOTAL	80	94	174
Row Percent	46.0%	54.0%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-3

BS CHEM ENGINEERING GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	2.2%	.0%	1.6%
PHYSICAL SCI OR MATH	3	2	5
Row Percent	60.0%	40.0%	100.0%
Column Percent	3.3%	5.7%	3.9%
CHEM OR BIOCHEM ENG	26	8	34
Row Percent	76.5%	23.5%	100.0%
Column Percent	28.3%	22.9%	26.8%
OTHER ENGINEERING	13	2	15
Row Percent	86.7%	13.3%	100.0%
Column Percent	14.1%	5.7%	11.8%
LIFE SCIENCE	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.9%	.8%
MEDICINE	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.1%	.0%	.8%
BUSINESS MANAGEMENT	43	20	63
Row Percent	68.3%	31.7%	100.0%
Column Percent	46.7%	57.1%	49.6%
EDUCATION	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.9%	.8%
LAW	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.1%	.0%	.8%
OTHER	3	1	4
Row Percent	75.0%	25.0%	100.0%
Column Percent	3.3%	2.9%	3.1%
TOTAL	92	35	127
Row Percent	72.4%	27.6%	**100.0%**
Column Percent	100.0%	100.0%	**100.0%**

Table C-3 Continued

MS CHEM ENGINEERING GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHYSICAL SCI OR MATH	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	10.0%	.0%	9.1%
CHEM OR BIOCHEM ENG	5	0	5
Row Percent	100.0%	.0%	100.0%
Column Percent	50.0%	.0%	45.5%
OTHER ENGINEERING	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	10.0%	100.0%	18.2%
LIFE SCIENCE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BUSINESS MANAGEMENT	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
OTHER	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	30.0%	.0%	27.3%
TOTAL	10	1	11
Row Percent	90.9%	9.1%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-4

BS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	238	133	371
Row Percent	64.2%	35.8%	100.0%
Column Percent	39.9%	34.6%	37.8%
PHYSICAL SCI OR MATH	9	4	13
Row Percent	69.2%	30.8%	100.0%
Column Percent	1.5%	1.0%	1.3%
CHEM OR BIOCHEM ENG	5	2	7
Row Percent	71.4%	28.6%	100.0%
Column Percent	.8%	.5%	.7%
OTHER ENGINEERING	5	4	9
Row Percent	55.6%	44.4%	100.0%
Column Percent	.8%	1.0%	.9%
BIOCHEMISTRY	43	37	80
Row Percent	53.8%	46.3%	100.0%
Column Percent	7.2%	9.6%	8.2%
LIFE SCIENCE	7	4	11
Row Percent	63.6%	36.4%	100.0%
Column Percent	1.2%	1.0%	1.1%
MEDICINE	207	133	340
Row Percent	60.9%	39.1%	100.0%
Column Percent	34.7%	34.6%	34.7%
DENTISTRY	22	13	35
Row Percent	62.9%	37.1%	100.0%
Column Percent	3.7%	3.4%	3.6%
PHARMACY	10	19	29
Row Percent	34.5%	65.5%	100.0%
Column Percent	1.7%	4.9%	3.0%
BUSINESS MANAGEMENT	7	8	15
Row Percent	46.7%	53.3%	100.0%
Column Percent	1.2%	2.1%	1.5%
EDUCATION	4	11	15
Row Percent	26.7%	73.3%	100.0%
Column Percent	.7%	2.9%	1.5%
LAW	15	4	19
Row Percent	78.9%	21.1%	100.0%
Column Percent	2.5%	1.0%	1.9%
OTHER	25	12	37
Row Percent	67.6%	32.4%	100.0%
Column Percent	4.2%	3.1%	3.8%
TOTAL	597	384	981
Row Percent	60.9%	39.1%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-4 Continued

MS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	57	28	85
Row Percent	67.1%	32.9%	100.0%
Column Percent	66.3%	68.3%	66.9%
PHYSICAL SCI OR MATH	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	1.2%	2.4%	1.6%
CHEM OR BIOCHEM ENG	3	2	5
Row Percent	60.0%	40.0%	100.0%
Column Percent	3.5%	4.9%	3.9%
OTHER ENGINEERING	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	2.3%	.0%	1.6%
BIOCHEMISTRY	11	1	12
Row Percent	91.7%	8.3%	100.0%
Column Percent	12.8%	2.4%	9.4%
LIFE SCIENCE	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	1.2%	2.4%	1.6%
MEDICINE	7	4	11
Row Percent	63.6%	36.4%	100.0%
Column Percent	8.1%	9.8%	8.7%
DENTISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	1.2%	.0%	.8%
BUSINESS MANAGEMENT	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.4%	.8%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	4.9%	1.6%
OTHER	3	1	4
Row Percent	75.0%	25.0%	100.0%
Column Percent	3.5%	2.4%	3.1%
TOTAL	86	41	127
Row Percent	67.7%	32.3%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-4 Continued

PHD CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	35	0	35
Row Percent	100.0%	.0%	100.0%
Column Percent	71.4%	.0%	70.0%
PHYSICAL SCI OR MATH	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
CHEM OR BIOCHEM ENG	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
OTHER ENGINEERING	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
BIOCHEMISTRY	12	1	13
Row Percent	92.3%	7.7%	100.0%
Column Percent	24.5%	100.0%	26.0%
LIFE SCIENCE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	2.0%	.0%	2.0%
DENTISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	2.0%	.0%	2.0%
BUSINESS MANAGEMENT	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
OTHER	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
TOTAL	**49**	**1**	**50**
Row Percent	**98.0%**	**2.0%**	**100.0%**
Column Percent	**100.0%**	**100.0%**	**100.0%**

Table C-5

BS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDIES and CERTIFICATION
1988 Starting Salary Survey

	CURRICULUM APPROVED?		TOTAL
	YES	NO	
FIELD OF FURTHER STUDIES			
CHEMISTRY	266	105	371
Row Percent	71.7%	28.3%	100.0%
Column Percent	60.0%	19.5%	37.8%
PHYSICAL SCI OR MATH	4	9	13
Row Percent	30.8%	69.2%	100.0%
Column Percent	.9%	1.7%	1.3%
CHEM OR BIOCHEM ENG	3	4	7
Row Percent	42.9%	57.1%	100.0%
Column Percent	.7%	.7%	.7%
OTHER ENGINEERING	4	5	9
Row Percent	44.4%	55.6%	100.0%
Column Percent	.9%	.9%	.9%
BIOCHEMISTRY	30	50	80
Row Percent	37.5%	62.5%	100.0%
Column Percent	6.8%	9.3%	8.2%
LIFE SCIENCE	1	10	11
Row Percent	9.1%	90.9%	100.0%
Column Percent	.2%	1.9%	1.1%
MEDICINE	94	246	340
Row Percent	27.6%	72.4%	100.0%
Column Percent	21.2%	45.7%	34.7%
DENTISTRY	4	31	35
Row Percent	11.4%	88.6%	100.0%
Column Percent	.9%	5.8%	3.6%
PHARMACY	6	23	29
Row Percent	20.7%	79.3%	100.0%
Column Percent	1.4%	4.3%	3.0%
BUSINESS MANAGEMENT	7	8	15
Row Percent	46.7%	53.3%	100.0%
Column Percent	1.6%	1.5%	1.5%
EDUCATION	4	11	15
Row Percent	26.7%	73.3%	100.0%
Column Percent	.9%	2.0%	1.5%
LAW	6	13	19
Row Percent	31.6%	68.4%	100.0%
Column Percent	1.4%	2.4%	1.9%
OTHER	14	23	37
Row Percent	37.8%	62.2%	100.0%
Column Percent	3.2%	4.3%	3.8%
TOTAL	**443**	**538**	**981**
Row Percent	**45.2%**	**54.8%**	**100.0%**
Column Percent	**100.0%**	**100.0%**	**100.0%**

Table C-6

BS CHEM ENGINEERING GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.9%	.0%	.7%
PHYSICAL SCI OR MATH	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	.9%	.0%	.7%
CHEM OR BIOCHEM ENG	78	15	93
Row Percent	83.9%	16.1%	100.0%
Column Percent	72.9%	53.6%	68.9%
OTHER ENGINEERING	5	3	8
Row Percent	62.5%	37.5%	100.0%
Column Percent	4.7%	10.7%	5.9%
BIOCHEMISTRY	2	0	2
Row Percent	100.0%	.0%	100.0%
Column Percent	1.9%	.0%	1.5%
MEDICINE	7	5	12
Row Percent	58.3%	41.7%	100.0%
Column Percent	6.5%	17.9%	8.9%
PHARMACY	0	2	2
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	7.1%	1.5%
BUSINESS MANAGEMENT	6	0	6
Row Percent	100.0%	.0%	100.0%
Column Percent	5.6%	.0%	4.4%
EDUCATION	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	3.6%	.7%
LAW	4	2	6
Row Percent	66.7%	33.3%	100.0%
Column Percent	3.7%	7.1%	4.4%
OTHER	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	2.8%	.0%	2.2%
TOTAL	**107**	**28**	**135**
Row Percent	**79.3%**	**20.7%**	**100.0%**
Column Percent	**100.0%**	**100.0%**	**100.0%**

Table C-6 Continued

MS CHEM ENGINEERING GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1988
by FIELD OF ADVANCED STUDY and SEX
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
FIELD OF FURTHER STUDIES			
CHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHYSICAL SCI OR MATH	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	2.3%	.0%	1.9%
CHEM OR BIOCHEM ENG	41	8	49
Row Percent	83.7%	16.3%	100.0%
Column Percent	93.2%	88.9%	92.5%
OTHER ENGINEERING	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	11.1%	1.9%
BIOCHEMISTRY	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
MEDICINE	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
PHARMACY	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	2.3%	.0%	1.9%
BUSINESS MANAGEMENT	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
EDUCATION	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
LAW	0	0	0
Row Percent	.0%	.0%	.0%
Column Percent	.0%	.0%	.0%
OTHER	1	0	1
Row Percent	100.0%	.0%	100.0%
Column Percent	2.3%	.0%	1.9%
TOTAL	44	9	53
Row Percent	83.0%	17.0%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-7

BS CHEMISTRY GRADUATES WHO ARE NOT EMPLOYED and NOT SEEKING EMPLOYMENT by SEX and PLANS FOR FURTHER STUDIES
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
PURSUE ADVANCED STUDIES IN FALL 88			
YES, FULL-TIME	242	173	415
Row Percent	58.3%	41.7%	100.0%
Column Percent	91.7%	93.5%	92.4%
YES, PART-TIME	8	5	13
Row Percent	61.5%	38.5%	100.0%
Column Percent	3.0%	2.7%	2.9%
NO	14	7	21
Row Percent	66.7%	33.3%	100.0%
Column Percent	5.3%	3.8%	4.7%
TOTAL	264	185	449
Row Percent	58.8%	41.2%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table C-8

BS CHEMICAL ENGINEERING GRADUATES WHO ARE NOT EMPLOYED and NOT SEEKING EMPLOYMENT by SEX and PLANS FOR FURTHER STUDIES
1988 Starting Salary Survey

	SEX		TOTAL
	MEN	WOMEN	
PURSUE ADVANCED STUDIES IN FALL 88			
YES, FULL-TIME	28	14	42
Row Percent	66.7%	33.3%	100.0%
Column Percent	90.3%	82.4%	87.5%
YES, PART-TIME	3	0	3
Row Percent	100.0%	.0%	100.0%
Column Percent	9.7%	.0%	6.3%
NO	0	3	3
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	17.6%	6.3%
TOTAL	31	17	48
Row Percent	64.6%	35.4%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table D-1

BS CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES
by AGE and SEX
1988 Starting Salary Survey

	FIELD					
	Chemical Engineering			Chemistry		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE						
20 OR UNDER	2	1	3	11	9	20
Row Percent	66.7%	33.3%	100.0%	55.0%	45.0%	100.0%
Column Percent	.4%	.5%	.4%	1.3%	1.5%	1.4%
21	42	28	70	120	125	245
Row Percent	60.0%	40.0%	100.0%	49.0%	51.0%	100.0%
Column Percent	8.5%	14.3%	10.1%	14.2%	20.4%	16.8%
22	179	71	250	386	274	660
Row Percent	71.6%	28.4%	100.0%	58.5%	41.5%	100.0%
Column Percent	36.1%	36.2%	36.1%	45.8%	44.8%	45.4%
23	155	71	226	134	103	237
Row Percent	68.6%	31.4%	100.0%	56.5%	43.5%	100.0%
Column Percent	31.3%	36.2%	32.7%	15.9%	16.8%	16.3%
24	58	10	68	50	24	74
Row Percent	85.3%	14.7%	100.0%	67.6%	32.4%	100.0%
Column Percent	11.7%	5.1%	9.8%	5.9%	3.9%	5.1%
25	18	4	22	25	24	49
Row Percent	81.8%	18.2%	100.0%	51.0%	49.0%	100.0%
Column Percent	3.6%	2.0%	3.2%	3.0%	3.9%	3.4%
26	11	2	13	13	8	21
Row Percent	84.6%	15.4%	100.0%	61.9%	38.1%	100.0%
Column Percent	2.2%	1.0%	1.9%	1.5%	1.3%	1.4%
27	9	2	11	15	12	27
Row Percent	81.8%	18.2%	100.0%	55.6%	44.4%	100.0%
Column Percent	1.8%	1.0%	1.6%	1.8%	2.0%	1.9%
28	4	0	4	20	5	25
Row Percent	100.0%	.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	.8%	.0%	.6%	2.4%	.8%	1.7%
29	4	1	5	12	3	15
Row Percent	80.0%	20.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	.8%	.5%	.7%	1.4%	.5%	1.0%
30 to 34	9	5	14	42	16	58
Row Percent	64.3%	35.7%	100.0%	72.4%	27.6%	100.0%
Column Percent	1.8%	2.6%	2.0%	5.0%	2.6%	4.0%
35 to 39	4	1	5	11	5	16
Row Percent	80.0%	20.0%	100.0%	68.8%	31.3%	100.0%
Column Percent	.8%	.5%	.7%	1.3%	.8%	1.1%
40 to 49	1	0	1	4	2	6
Row Percent	100.0%	.0%	100.0%	66.7%	33.3%	100.0%
Column Percent	.2%	.0%	.1%	.5%	.3%	.4%
50 to 64	0	0	0	0	2	2
Row Percent	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	.0%	.0%	.0%	.0%	.3%	.1%
TOTAL	496	196	692	843	612	1455
Row Percent	71.7%	28.3%	100.0%	57.9%	42.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-2

MS CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES
by AGE and SEX
1988 Starting Salary Survey

	FIELD					
	Chemical Engineering			Chemistry		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE						
22	1	0	1	4	2	6
Row Percent	100.0%	.0%	100.0%	66.7%	33.3%	100.0%
Column Percent	.9%	.0%	.8%	2.5%	2.1%	2.3%
23	7	0	7	6	9	15
Row Percent	100.0%	.0%	100.0%	40.0%	60.0%	100.0%
Column Percent	6.5%	.0%	5.3%	3.7%	9.5%	5.9%
24	15	9	24	15	13	28
Row Percent	62.5%	37.5%	100.0%	53.6%	46.4%	100.0%
Column Percent	13.9%	39.1%	18.3%	9.3%	13.7%	10.9%
25	20	4	24	26	21	47
Row Percent	83.3%	16.7%	100.0%	55.3%	44.7%	100.0%
Column Percent	18.5%	17.4%	18.3%	16.1%	22.1%	18.4%
26	17	2	19	19	10	29
Row Percent	89.5%	10.5%	100.0%	65.5%	34.5%	100.0%
Column Percent	15.7%	8.7%	14.5%	11.8%	10.5%	11.3%
27	10	4	14	25	7	32
Row Percent	71.4%	28.6%	100.0%	78.1%	21.9%	100.0%
Column Percent	9.3%	17.4%	10.7%	15.5%	7.4%	12.5%
28	17	1	18	14	6	20
Row Percent	94.4%	5.6%	100.0%	70.0%	30.0%	100.0%
Column Percent	15.7%	4.3%	13.7%	8.7%	6.3%	7.8%
29	6	0	6	7	9	16
Row Percent	100.0%	.0%	100.0%	43.8%	56.3%	100.0%
Column Percent	5.6%	.0%	4.6%	4.3%	9.5%	6.3%
30 to 34	12	2	14	33	12	45
Row Percent	85.7%	14.3%	100.0%	73.3%	26.7%	100.0%
Column Percent	11.1%	8.7%	10.7%	20.5%	12.6%	17.6%
35 to 39	3	1	4	5	3	8
Row Percent	75.0%	25.0%	100.0%	62.5%	37.5%	100.0%
Column Percent	2.8%	4.3%	3.1%	3.1%	3.2%	3.1%
40 to 49	0	0	0	7	2	9
Row Percent	.0%	.0%	.0%	77.8%	22.2%	100.0%
Column Percent	.0%	.0%	.0%	4.3%	2.1%	3.5%
50 to 64	0	0	0	0	1	1
Row Percent	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	.0%	.0%	.0%	.0%	1.1%	.4%
TOTAL	108	23	131	161	95	256
Row Percent	82.4%	17.6%	100.0%	62.9%	37.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-3

PhD CHEMISTRY and CHEMICAL ENGINEERING GRADUATES
by AGE and SEX
1988 Starting Salary Survey

	FIELD					
	Chemical Engineering			Chemistry		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE						
22	1	0	1	0	0	0
Row Percent	100.0%	.0%	100.0%	.0%	.0%	.0%
Column Percent	1.0%	.0%	.9%	.0%	.0%	.0%
23	0	1	1	0	0	0
Row Percent	.0%	100.0%	100.0%	.0%	.0%	.0%
Column Percent	.0%	7.1%	.9%	.0%	.0%	.0%
24	0	0	0	1	1	2
Row Percent	.0%	.0%	.0%	50.0%	50.0%	100.0%
Column Percent	.0%	.0%	.0%	.3%	1.1%	.4%
25	4	0	4	7	3	10
Row Percent	100.0%	.0%	100.0%	70.0%	30.0%	100.0%
Column Percent	4.0%	.0%	3.5%	1.9%	3.4%	2.2%
26	4	3	7	21	9	30
Row Percent	57.1%	42.9%	100.0%	70.0%	30.0%	100.0%
Column Percent	4.0%	21.4%	6.2%	5.6%	10.1%	6.5%
27	18	5	23	60	10	70
Row Percent	78.3%	21.7%	100.0%	85.7%	14.3%	100.0%
Column Percent	18.2%	35.7%	20.4%	16.1%	11.2%	15.2%
28	19	1	20	64	16	80
Row Percent	95.0%	5.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	19.2%	7.1%	17.7%	17.2%	18.0%	17.3%
29	17	3	20	60	14	74
Row Percent	85.0%	15.0%	100.0%	81.1%	18.9%	100.0%
Column Percent	17.2%	21.4%	17.7%	16.1%	15.7%	16.0%
30 to 34	34	1	35	117	28	145
Row Percent	97.1%	2.9%	100.0%	80.7%	19.3%	100.0%
Column Percent	34.3%	7.1%	31.0%	31.4%	31.5%	31.4%
35 to 39	2	0	2	30	6	36
Row Percent	100.0%	.0%	100.0%	83.3%	16.7%	100.0%
Column Percent	2.0%	.0%	1.8%	8.0%	6.7%	7.8%
40 to 49	0	0	0	13	1	14
Row Percent	.0%	.0%	.0%	92.9%	7.1%	100.0%
Column Percent	.0%	.0%	.0%	3.5%	1.1%	3.0%
50 to 64	0	0	0	0	1	1
Row Percent	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	.0%	.0%	.0%	.0%	1.1%	.2%
TOTAL	99	14	113	373	89	462
Row Percent	87.6%	12.4%	100.0%	80.7%	19.3%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table D-4

CHEMISTRY POSTDOCTORAL RECIPIENTS
by AGE and SEX
1988 Starting Salary Survey

	MEN	WOMEN	TOTAL
AGE			
24	1	1	2
Row Percent	50.0%	50.0%	100.0%
Column Percent	.6%	2.9%	1.0%
25	2	2	4
Row Percent	50.0%	50.0%	100.0%
Column Percent	1.2%	5.9%	2.0%
26	13	6	19
Row Percent	68.4%	31.6%	100.0%
Column Percent	8.0%	17.6%	9.7%
27	28	1	29
Row Percent	96.6%	3.4%	100.0%
Column Percent	17.3%	2.9%	14.8%
28	27	5	32
Row Percent	84.4%	15.6%	100.0%
Column Percent	16.7%	14.7%	16.3%
29	27	2	29
Row Percent	93.1%	6.9%	100.0%
Column Percent	16.7%	5.9%	14.8%
30 to 34	50	14	64
Row Percent	78.1%	21.9%	100.0%
Column Percent	30.9%	41.2%	32.7%
35 to 39	10	1	11
Row Percent	90.9%	9.1%	100.0%
Column Percent	6.2%	2.9%	5.6%
40 to 49	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	2.5%	2.9%	2.6%
50 to 64	0	1	1
Row Percent	.0%	100.0%	100.0%
Column Percent	.0%	2.9%	.5%
TOTAL	162	34	196
Row Percent	82.7%	17.3%	100.0%
Column Percent	100.0%	100.0%	100.0%

Table E-1

FULL-TIME EMPLOYED INEXPERIENCED CHEMISTS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	67	55	122	14	10	24	41	9	50
Row Percent	54.9%	45.1%	100.0%	58.3%	41.7%	100.0%	82.0%	18.0%	100.0%
Column Percent	37.4%	36.2%	36.9%	41.2%	35.7%	38.7%	33.6%	36.0%	34.0%
2	53	52	105	15	8	23	37	9	46
Row Percent	50.5%	49.5%	100.0%	65.2%	34.8%	100.0%	80.4%	19.6%	100.0%
Column Percent	29.6%	34.2%	31.7%	44.1%	28.6%	37.1%	30.3%	36.0%	31.3%
3	31	26	57	3	9	12	27	5	32
Row Percent	54.4%	45.6%	100.0%	25.0%	75.0%	100.0%	84.4%	15.6%	100.0%
Column Percent	17.3%	17.1%	17.2%	8.8%	32.1%	19.4%	22.1%	20.0%	21.8%
4	18	10	28	1	0	1	6	0	6
Row Percent	64.3%	35.7%	100.0%	100.0%	.0%	100.0%	100.0%	.0%	100.0%
Column Percent	10.1%	6.6%	8.5%	2.9%	.0%	1.6%	4.9%	.0%	4.1%
5	6	6	12	0	0	0	4	2	6
Row Percent	50.0%	50.0%	100.0%	.0%	.0%	.0%	66.7%	33.3%	100.0%
Column Percent	3.4%	3.9%	3.6%	.0%	.0%	.0%	3.3%	8.0%	4.1%
6 or 7	4	3	7	1	1	2	7	0	7
Row Percent	57.1%	42.9%	100.0%	50.0%	50.0%	100.0%	100.0%	.0%	100.0%
Column Percent	2.2%	2.0%	2.1%	2.9%	3.6%	3.2%	5.7%	.0%	4.8%
TOTAL	179	152	331	34	28	62	122	25	147
Row Percent	54.1%	45.9%	100.0%	54.8%	45.2%	100.0%	83.0%	17.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table E-2

FULL-TIME EMPLOYED EXPERIENCED CHEMISTS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	40	26	66	15	9	24	26	4	30
Row Percent	60.6%	39.4%	100.0%	62.5%	37.5%	100.0%	86.7%	13.3%	100.0%
Column Percent	47.1%	38.8%	43.4%	40.5%	30.0%	35.8%	36.1%	23.5%	33.7%
2	13	21	34	10	7	17	17	6	23
Row Percent	38.2%	61.8%	100.0%	58.8%	41.2%	100.0%	73.9%	26.1%	100.0%
Column Percent	15.3%	31.3%	22.4%	27.0%	23.3%	25.4%	23.6%	35.3%	25.8%
3	22	11	33	7	8	15	14	5	19
Row Percent	66.7%	33.3%	100.0%	46.7%	53.3%	100.0%	73.7%	26.3%	100.0%
Column Percent	25.9%	16.4%	21.7%	18.9%	26.7%	22.4%	19.4%	29.4%	21.3%
4	6	4	10	4	0	4	9	2	11
Row Percent	60.0%	40.0%	100.0%	100.0%	.0%	100.0%	81.8%	18.2%	100.0%
Column Percent	7.1%	6.0%	6.6%	10.8%	.0%	6.0%	12.5%	11.8%	12.4%
5	1	4	5	0	2	2	2	0	2
Row Percent	20.0%	80.0%	100.0%	.0%	100.0%	100.0%	100.0%	.0%	100.0%
Column Percent	1.2%	6.0%	3.3%	.0%	6.7%	3.0%	2.8%	.0%	2.2%
6 or 7	3	0	3	1	4	5	4	0	4
Row Percent	100.0%	.0%	100.0%	20.0%	80.0%	100.0%	100.0%	.0%	100.0%
Column Percent	3.5%	.0%	2.0%	2.7%	13.3%	7.5%	5.6%	.0%	4.5%
8 or 9	0	1	1	0	0	0	0	0	0
Row Percent	.0%	100.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%
Column Percent	.0%	1.5%	.7%	.0%	.0%	.0%	.0%	.0%	.0%
TOTAL	85	67	152	37	30	67	72	17	89
Row Percent	55.9%	44.1%	100.0%	55.2%	44.8%	100.0%	80.9%	19.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table E-3

FULL-TIME EMPLOYED INEXPERIENCED CHEMICAL ENGINEERS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	95	28	123	11	2	13	25	1	26
Row Percent	77.2%	22.8%	100.0%	84.6%	15.4%	100.0%	96.2%	3.8%	100.0%
Column Percent	38.2%	26.2%	34.6%	37.9%	25.0%	35.1%	44.6%	20.0%	42.6%
2	54	32	86	9	2	11	17	0	17
Row Percent	62.8%	37.2%	100.0%	81.8%	18.2%	100.0%	100.0%	.0%	100.0%
Column Percent	21.7%	29.9%	24.2%	31.0%	25.0%	29.7%	30.4%	.0%	27.9%
3	49	15	64	6	3	9	7	3	10
Row Percent	76.6%	23.4%	100.0%	66.7%	33.3%	100.0%	70.0%	30.0%	100.0%
Column Percent	19.7%	14.0%	18.0%	20.7%	37.5%	24.3%	12.5%	60.0%	16.4%
4	22	12	34	1	1	2	3	1	4
Row Percent	64.7%	35.3%	100.0%	50.0%	50.0%	100.0%	75.0%	25.0%	100.0%
Column Percent	8.8%	11.2%	9.6%	3.4%	12.5%	5.4%	5.4%	20.0%	6.6%
5	15	2	17	0	0	0	2	0	2
Row Percent	88.2%	11.8%	100.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
Column Percent	6.0%	1.9%	4.8%	.0%	.0%	.0%	3.6%	.0%	3.3%
6 or 7	14	16	30	2	0	2	2	0	2
Row Percent	46.7%	53.3%	100.0%	100.0%	.0%	100.0%	100.0%	.0%	100.0%
Column Percent	5.6%	15.0%	8.4%	6.9%	.0%	5.4%	3.6%	.0%	3.3%
8 or 9	0	2	2	0	0	0	0	0	0
Row Percent	.0%	100.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%
Column Percent	.0%	1.9%	.6%	.0%	.0%	.0%	.0%	.0%	.0%
TOTAL	249	107	356	29	8	37	56	5	61
Row Percent	69.9%	30.1%	100.0%	78.4%	21.6%	100.0%	91.8%	8.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table E-4

FULL-TIME EMPLOYED EXPERIENCED CHEMICAL ENGINEERS
by NUMBER OF JOB OFFERS, SEX, and DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
OFFERS OF EMPLOYMENT									
1	30	15	45	14	2	16	5	1	6
Row Percent	66.7%	33.3%	100.0%	87.5%	12.5%	100.0%	83.3%	16.7%	100.0%
Column Percent	19.7%	20.0%	19.8%	40.0%	33.3%	39.0%	20.0%	50.0%	22.2%
2	38	16	54	9	2	11	5	0	5
Row Percent	70.4%	29.6%	100.0%	81.8%	18.2%	100.0%	100.0%	.0%	100.0%
Column Percent	25.0%	21.3%	23.8%	25.7%	33.3%	26.8%	20.0%	.0%	18.5%
3	26	14	40	9	2	11	5	1	6
Row Percent	65.0%	35.0%	100.0%	81.8%	18.2%	100.0%	83.3%	16.7%	100.0%
Column Percent	17.1%	18.7%	17.6%	25.7%	33.3%	26.8%	20.0%	50.0%	22.2%
4	18	12	30	0	0	0	3	0	3
Row Percent	60.0%	40.0%	100.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
Column Percent	11.8%	16.0%	13.2%	.0%	.0%	.0%	12.0%	.0%	11.1%
5	17	6	23	0	0	0	6	0	6
Row Percent	73.9%	26.1%	100.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
Column Percent	11.2%	8.0%	10.1%	.0%	.0%	.0%	24.0%	.0%	22.2%
6 or 7	23	11	34	3	0	3	1	0	1
Row Percent	67.6%	32.4%	100.0%	100.0%	.0%	100.0%	100.0%	.0%	100.0%
Column Percent	15.1%	14.7%	15.0%	8.6%	.0%	7.3%	4.0%	.0%	3.7%
8 or 9	0	1	1	0	0	0	0	0	0
Row Percent	.0%	100.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%
Column Percent	.0%	1.3%	.4%	.0%	.0%	.0%	.0%	.0%	.0%
TOTAL	152	75	227	35	6	41	25	2	27
Row Percent	67.0%	33.0%	100.0%	85.4%	14.6%	100.0%	92.6%	7.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-1

BS CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	7	20	4	19	30	23	1453	11	1567
Row Percent	.4%	1.3%	.3%	1.2%	1.9%	1.5%	92.7%	.7%	100.0%
Column Percent	100.0%	38.5%	30.8%	31.7%	76.9%	69.7%	97.1%	64.7%	91.2%
U.S. NATURALIZED	0	22	7	33	3	5	21	3	94
Row Percent	.0%	23.4%	7.4%	35.1%	3.2%	5.3%	22.3%	3.2%	100.0%
Column Percent	.0%	42.3%	53.8%	55.0%	7.7%	15.2%	1.4%	17.6%	5.5%
U.S. PERMANENT RESIDENT	0	7	2	7	5	4	19	2	46
Row Percent	.0%	15.2%	4.3%	15.2%	10.9%	8.7%	41.3%	4.3%	100.0%
Column Percent	.0%	13.5%	15.4%	11.7%	12.8%	12.1%	1.3%	11.8%	2.7%
OTHER VISA	0	3	0	1	1	1	4	1	11
Row Percent	.0%	27.3%	.0%	9.1%	9.1%	9.1%	36.4%	9.1%	100.0%
Column Percent	.0%	5.8%	.0%	1.7%	2.6%	3.0%	.3%	5.9%	.6%
TOTAL	7	52	13	60	39	33	1497	17	1718
Row Percent	.4%	3.0%	.8%	3.5%	2.3%	1.9%	87.1%	1.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-1 Continued

MS CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	0	2	0	1	6	5	227	2	243
Row Percent	.0%	.8%	.0%	.4%	2.5%	2.1%	93.4%	.8%	100.0%
Column Percent	.0%	8.7%	.0%	10.0%	100.0%	55.6%	95.8%	33.3%	81.5%
U.S. NATURALIZED	0	1	0	3	0	2	3	0	9
Row Percent	.0%	11.1%	.0%	33.3%	.0%	22.2%	33.3%	.0%	100.0%
Column Percent	.0%	4.3%	.0%	30.0%	.0%	22.2%	1.3%	.0%	3.0%
U.S. PERMANENT RESIDENT	0	2	3	0	0	1	5	1	12
Row Percent	.0%	16.7%	25.0%	.0%	.0%	8.3%	41.7%	8.3%	100.0%
Column Percent	.0%	8.7%	42.9%	.0%	.0%	11.1%	2.1%	16.7%	4.0%
OTHER VISA	0	18	4	6	0	1	2	3	34
Row Percent	.0%	52.9%	11.8%	17.6%	.0%	2.9%	5.9%	8.8%	100.0%
Column Percent	.0%	78.3%	57.1%	60.0%	.0%	11.1%	.8%	50.0%	11.4%
TOTAL	0	23	7	10	6	9	237	6	298
Row Percent	.0%	7.7%	2.3%	3.4%	2.0%	3.0%	79.5%	2.0%	100.0%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-1 Continued

PhD CHEMISTRY GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

	RACE OR ETHNIC GROUP								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	1	3	0	7	4	7	384	2	408
Row Percent	.2%	.7%	.0%	1.7%	1.0%	1.7%	94.1%	.5%	100.0%
Column Percent	100.0%	6.5%	.0%	21.9%	66.7%	46.7%	93.9%	100.0%	77.9%
U.S. NATURALIZED	0	0	2	0	1	3	6	0	12
Row Percent	.0%	.0%	16.7%	.0%	8.3%	25.0%	50.0%	.0%	100.0%
Column Percent	.0%	.0%	15.4%	.0%	16.7%	20.0%	1.5%	.0%	2.3%
U.S. PERMANENT RESIDENT	0	4	1	2	0	1	2	0	10
Row Percent	.0%	40.0%	10.0%	20.0%	.0%	10.0%	20.0%	.0%	100.0%
Column Percent	.0%	8.7%	7.7%	6.3%	.0%	6.7%	.5%	.0%	1.9%
OTHER VISA	0	39	10	23	1	4	17	0	94
Row Percent	.0%	41.5%	10.6%	24.5%	1.1%	4.3%	18.1%	.0%	100.0%
Column Percent	.0%	84.8%	76.9%	71.9%	16.7%	26.7%	4.2%	.0%	17.9%
TOTAL	1	46	13	32	6	15	409	2	524
Row Percent	.2%	8.8%	2.5%	6.1%	1.1%	2.9%	78.1%	.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-2

CHEMISTRY GRADUATES
by CITIZENSHIP, SEX, and DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
U.S. NATIVE	917	660	1577	148	98	246	331	79	410
Row Percent	58.1%	41.9%	100.0%	60.2%	39.8%	100.0%	80.7%	19.3%	100.0%
Column Percent	91.7%	90.8%	91.3%	78.3%	86.0%	81.2%	77.0%	81.4%	77.8%
U.S. NATURALIZED	50	43	93	5	4	9	10	2	12
Row Percent	53.8%	46.2%	100.0%	55.6%	44.4%	100.0%	83.3%	16.7%	100.0%
Column Percent	5.0%	5.9%	5.4%	2.6%	3.5%	3.0%	2.3%	2.1%	2.3%
U.S. PERMANENT RESIDENT	29	17	46	8	4	12	7	3	10
Row Percent	63.0%	37.0%	100.0%	66.7%	33.3%	100.0%	70.0%	30.0%	100.0%
Column Percent	2.9%	2.3%	2.7%	4.2%	3.5%	4.0%	1.6%	3.1%	1.9%
OTHER VISA	4	7	11	28	8	36	82	13	95
Row Percent	36.4%	63.6%	100.0%	77.8%	22.2%	100.0%	86.3%	13.7%	100.0%
Column Percent	.4%	1.0%	.6%	14.8%	7.0%	11.9%	19.1%	13.4%	18.0%
TOTAL	1000	727	1727	189	114	303	430	97	527
Row Percent	57.9%	42.1%	100.0%	62.4%	37.6%	100.0%	81.6%	18.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-3

MINORITY CHEMISTRY GRADUATES
by MINORITY CLASSIFICATION, SEX, AND DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
RACE OR ETHNIC GROUP									
AMER INDIAN	4	3	7	0	0	0	0	1	1
Row Percent	57.1%	42.9%	100.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
Column Percent	3.4%	2.9%	3.2%	.0%	.0%	.0%	.0%	5.9%	.9%
CHINESE	25	27	52	18	5	23	39	7	46
Row Percent	48.1%	51.9%	100.0%	78.3%	21.7%	100.0%	84.8%	15.2%	100.0%
Column Percent	21.2%	26.5%	23.6%	40.9%	27.8%	37.1%	39.8%	41.2%	40.0%
SUBCONT INDIAN	5	8	13	7	1	8	13	0	13
Row Percent	38.5%	61.5%	100.0%	87.5%	12.5%	100.0%	100.0%	.0%	100.0%
Column Percent	4.2%	7.8%	5.9%	15.9%	5.6%	12.9%	13.3%	.0%	11.3%
OTHER ASIAN	36	23	59	5	5	10	28	4	32
Row Percent	61.0%	39.0%	100.0%	50.0%	50.0%	100.0%	87.5%	12.5%	100.0%
Column Percent	30.5%	22.5%	26.8%	11.4%	27.8%	16.1%	28.6%	23.5%	27.8%
BLACK	20	19	39	3	3	6	3	3	6
Row Percent	51.3%	48.7%	100.0%	50.0%	50.0%	100.0%	50.0%	50.0%	100.0%
Column Percent	16.9%	18.6%	17.7%	6.8%	16.7%	9.7%	3.1%	17.6%	5.2%
HISPANIC	20	13	33	6	3	9	13	2	15
Row Percent	60.6%	39.4%	100.0%	66.7%	33.3%	100.0%	86.7%	13.3%	100.0%
Column Percent	16.9%	12.7%	15.0%	13.6%	16.7%	14.5%	13.3%	11.8%	13.0%
OTHER	8	9	17	5	1	6	2	0	2
Row Percent	47.1%	52.9%	100.0%	83.3%	16.7%	100.0%	100.0%	.0%	100.0%
Column Percent	6.8%	8.8%	7.7%	11.4%	5.6%	9.7%	2.0%	.0%	1.7%
TOTAL	118	102	220	44	18	62	98	17	115
Row Percent	53.6%	46.4%	100.0%	71.0%	29.0%	100.0%	85.2%	14.8%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-4

BS CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

	MINORITY CLASSIFICATION								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	8	6	1	5	15	10	702	5	752
Row Percent	1.1%	.8%	.1%	.7%	2.0%	1.3%	93.4%	.7%	100.0%
Column Percent	100.0%	40.0%	33.3%	20.8%	75.0%	76.9%	98.2%	83.3%	93.5%
U.S. NATURALIZED	0	6	2	12	1	1	6	1	29
Row Percent	.0%	20.7%	6.9%	41.4%	3.4%	3.4%	20.7%	3.4%	100.0%
Column Percent	.0%	40.0%	66.7%	50.0%	5.0%	7.7%	.8%	16.7%	3.6%
U.S. PERMANENT RESIDENT	0	1	0	4	2	1	5	0	13
Row Percent	.0%	7.7%	.0%	30.8%	15.4%	7.7%	38.5%	.0%	100.0%
Column Percent	.0%	6.7%	.0%	16.7%	10.0%	7.7%	.7%	.0%	1.6%
OTHER VISA	0	2	0	3	2	1	2	0	10
Row Percent	.0%	20.0%	.0%	30.0%	20.0%	10.0%	20.0%	.0%	100.0%
Column Percent	.0%	13.3%	.0%	12.5%	10.0%	7.7%	.3%	.0%	1.2%
TOTAL	8	15	3	24	20	13	715	6	804
Row Percent	1.0%	1.9%	.4%	3.0%	2.5%	1.6%	88.9%	.7%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-4 Continued

MS CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

	MINORITY CLASSIFICATION								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	0	3	0	0	1	2	92	2	100
Row Percent	.0%	3.0%	.0%	.0%	1.0%	2.0%	92.0%	2.0%	100.0%
Column Percent	.0%	23.1%	.0%	.0%	100.0%	40.0%	86.8%	50.0%	69.4%
U.S. NATURALIZED	0	3	1	2	0	1	1	0	8
Row Percent	.0%	37.5%	12.5%	25.0%	.0%	12.5%	12.5%	.0%	100.0%
Column Percent	.0%	23.1%	11.1%	33.3%	.0%	20.0%	.9%	.0%	5.6%
U.S. PERMANENT RESIDENT	0	1	0	0	0	0	2	0	3
Row Percent	.0%	33.3%	.0%	.0%	.0%	.0%	66.7%	.0%	100.0%
Column Percent	.0%	7.7%	.0%	.0%	.0%	.0%	1.9%	.0%	2.1%
OTHER VISA	0	6	8	4	0	2	11	2	33
Row Percent	.0%	18.2%	24.2%	12.1%	.0%	6.1%	33.3%	6.1%	100.0%
Column Percent	.0%	46.2%	88.9%	66.7%	.0%	40.0%	10.4%	50.0%	22.9%
TOTAL	0	13	9	6	1	5	106	4	144
Row Percent	.0%	9.0%	6.3%	4.2%	.7%	3.5%	73.6%	2.8%	100.0%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-4 Continued

PhD CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP and ETHNICITY
1988 Starting Salary Survey

	MINORITY CLASSIFICATION								TOTAL
	AMER INDIAN	CHINESE	SUBCONT INDIAN	OTHER ASIAN	BLACK	HISP	WHITE	OTHER	
CITIZENSHIP									
U.S. NATIVE	0	2	0	1	1	1	73	0	78
Row Percent	.0%	2.6%	.0%	1.3%	1.3%	1.3%	93.6%	.0%	100.0%
Column Percent	.0%	12.5%	.0%	12.5%	50.0%	100.0%	90.1%	.0%	65.5%
U.S. NATURALIZED	0	4	0	0	0	0	1	0	5
Row Percent	.0%	80.0%	.0%	.0%	.0%	.0%	20.0%	.0%	100.0%
Column Percent	.0%	25.0%	.0%	.0%	.0%	.0%	1.2%	.0%	4.2%
U.S. PERMANENT RESIDENT	0	2	0	0	0	0	3	0	5
Row Percent	.0%	40.0%	.0%	.0%	.0%	.0%	60.0%	.0%	100.0%
Column Percent	.0%	12.5%	.0%	.0%	.0%	.0%	3.7%	.0%	4.2%
OTHER VISA	0	8	11	7	1	0	4	0	31
Row Percent	.0%	25.8%	35.5%	22.6%	3.2%	.0%	12.9%	.0%	100.0%
Column Percent	.0%	50.0%	100.0%	87.5%	50.0%	.0%	4.9%	.0%	26.1%
TOTAL	0	16	11	8	2	1	81	0	119
Row Percent	.0%	13.4%	9.2%	6.7%	1.7%	.8%	68.1%	.0%	100.0%
Column Percent	.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	.0%	100.0%

Table F-5

CHEMICAL ENGINEERING GRADUATES
by CITIZENSHIP, SEX, and DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
U.S. NATIVE	534	219	753	82	21	103	69	11	80
Row Percent	70.9%	29.1%	100.0%	79.6%	20.4%	100.0%	86.3%	13.8%	100.0%
Column Percent	93.7%	93.6%	93.7%	68.3%	77.8%	70.1%	64.5%	78.6%	66.1%
U.S. NATURALIZED	17	11	28	7	1	8	4	1	5
Row Percent	60.7%	39.3%	100.0%	87.5%	12.5%	100.0%	80.0%	20.0%	100.0%
Column Percent	3.0%	4.7%	3.5%	5.8%	3.7%	5.4%	3.7%	7.1%	4.1%
U.S. PERMANENT RESIDENT	10	3	13	2	1	3	4	1	5
Row Percent	76.9%	23.1%	100.0%	66.7%	33.3%	100.0%	80.0%	20.0%	100.0%
Column Percent	1.8%	1.3%	1.6%	1.7%	3.7%	2.0%	3.7%	7.1%	4.1%
OTHER VISA	9	1	10	29	4	33	30	1	31
Row Percent	90.0%	10.0%	100.0%	87.9%	12.1%	100.0%	96.8%	3.2%	100.0%
Column Percent	1.6%	.4%	1.2%	24.2%	14.8%	22.4%	28.0%	7.1%	25.6%
TOTAL	570	234	804	120	27	147	107	14	121
Row Percent	70.9%	29.1%	100.0%	81.6%	18.4%	100.0%	88.4%	11.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table F-6

MINORITY CHEMICAL ENGINEERING GRADUATES
by MINORITY CLASSIFICATION, SEX, AND DEGREE
1988 Starting Salary Survey

	BS			MS			PHD		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
RACE OR ETHNIC GROUP									
AMER INDIAN	5	3	8	0	0	0	0	0	0
Row Percent	62.5%	37.5%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%
Column Percent	9.4%	8.8%	9.2%	.0%	.0%	.0%	.0%	.0%	.0%
CHINESE	7	7	14	12	1	13	15	1	16
Row Percent	50.0%	50.0%	100.0%	92.3%	7.7%	100.0%	93.8%	6.3%	100.0%
Column Percent	13.2%	20.6%	16.1%	37.5%	16.7%	34.2%	40.5%	100.0%	42.1%
SUBCONT INDIAN	0	2	2	9	0	9	11	0	11
Row Percent	.0%	100.0%	100.0%	100.0%	.0%	100.0%	100.0%	.0%	100.0%
Column Percent	.0%	5.9%	2.3%	28.1%	.0%	23.7%	29.7%	.0%	28.9%
OTHER ASIAN	20	4	24	3	3	6	8	0	8
Row Percent	83.3%	16.7%	100.0%	50.0%	50.0%	100.0%	100.0%	.0%	100.0%
Column Percent	37.7%	11.8%	27.6%	9.4%	50.0%	15.8%	21.6%	.0%	21.1%
BLACK	10	10	20	0	1	1	2	0	2
Row Percent	50.0%	50.0%	100.0%	.0%	100.0%	100.0%	100.0%	.0%	100.0%
Column Percent	18.9%	29.4%	23.0%	.0%	16.7%	2.6%	5.4%	.0%	5.3%
HISPANIC	6	7	13	5	0	5	1	0	1
Row Percent	46.2%	53.8%	100.0%	100.0%	.0%	100.0%	100.0%	.0%	100.0%
Column Percent	11.3%	20.6%	14.9%	15.6%	.0%	13.2%	2.7%	.0%	2.6%
OTHER	5	1	6	3	1	4	0	0	0
Row Percent	83.3%	16.7%	100.0%	75.0%	25.0%	100.0%	.0%	.0%	.0%
Column Percent	9.4%	2.9%	6.9%	9.4%	16.7%	10.5%	.0%	.0%	.0%
TOTAL	53	34	87	32	6	38	37	1	38
Row Percent	**60.9%**	**39.1%**	**100.0%**	**84.2%**	**15.8%**	**100.0%**	**97.4%**	**2.6%**	**100.0%**
Column Percent	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

American Chemical Society

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
Phone (202) 872-4534

JOHN K CRUM
Executive Director

Summer 1988

Dear Colleague:

Every year, the American Chemical Society conducts a mail survey of persons who have recently earned degrees in chemistry or chemical engineering. Published results, which include information about salaries and employment, are useful to the profession, and especially to those beginning their careers.

I urge you, as a service to your colleagues and profession, to respond to this year's questionnaire. No personal identification is required or requested; the returns will be confidential. The information you provide will be combined with returns from other graduates so that only aggregated data will be available.

Please complete this questionnaire and return it promptly. For your convenience, I have enclosed a self-addressed, postage-paid envelope. Results of the survey will be published in the CHEMICAL AND ENGINEERING NEWS' Career Issue this October and in a more extensive report later in the year.

Thank you for your assistance with this survey. I extend my best wishes for every success in your professional pursuits.

Sincerely,

John K Crum

Enclosure

AMERICAN CHEMICAL SOCIETY

Survey of Starting Salaries and Employment Status of 1988 Chemistry and Chemical Engineering Graduates

1. Highest degree earned:
- Bachelor's
- Master's
- Doctorate

2. Field of highest degree:
- Chemical engineering
- Biochemical engineering
- Biochemistry
- Analytical chemistry
- Inorganic chemistry
- Organic chemistry
- Physical chemistry
- Polymer chemistry
- Other chemistry
- Other

3. Grade point average:
[Use A = 4.00; B = 3.00; C = 2.00]

In your major _____

Overall _____

4. Please describe the school that granted your degree:

a. Public
Private

b. Total number of students:
- Less than 1,500
- 1,500 to 4,999
- 5,000 to 9,999
- 10,000 to 19,999
- 20,000 or more

c. The highest degree offered by your department is:
- BS
- MS
- PhD

d. Location of school. Please give first three digits of zip code: _____

e. Is the school an historically or predominantly black institution?
- Yes
- No

f. Is the school a traditionally women's institution?
- Yes
- No

5. How would you rate the state of equipment in your chemistry or chemical engineering classes?

a. The type of equipment was:
- Excellent
- Adequate
- Inadequate

b. The access to equipment was:
- Excellent
- Adequate
- Inadequate

c. How up-to-date was the equipment?
- Extremely
- Moderately
- Not at all

6. In your chemistry classes, did you get a chance to:

a. Work in teams?
- Yes
- No

b. Work on independent research projects?
- Yes
- No

7. Will you pursue advanced studies in the fall of 1988?
- Yes, full-time
- Yes, part-time
- No

a. If yes, field of further studies:
- Chemistry
- Other physical science or math
- Chemical engineering or biochemical engineering
- Other engineering
- Biochemistry
- Life science
- Medicine
- Dentistry
- Pharmacy, pharmacology
- Business management
- Education
- Law
- Other

8. Age at last birthday? ___ ___ years old

9. Sex:
- Male
- Female

10. Citizenship or visa status:
- U.S. native
- U.S. naturalized
- U.S. permanent resident visa
- Other visa

11. Race or ethnic group:
- American Indian or Alaskan Native
- Chinese
- Subcontinental Indian
- Other Asian or Pacific Islander
- Black (not of Hispanic origin)
- Hispanic
- White (not of Hispanic origin)
- Other race or ethnic group

12. Current employment status:
- Accepted or continuing full-time employment (excluding summer employment)
- Accepted a graduate assistantship, fellowship or postdoctoral fellowship
- Part-time employment
- Temporary/summer employment

a. If not continuing full-time employment, are you:
- *seeking* full-time, year-round employment
- *not seeking* full-time, year-round employment

IF YOU CHECKED BOX 3 OR 4 IN THE QUESTION ABOVE, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED

13. **Your base annual salary from principal job:**

$ _____ per year

IF YOU HOLD AN ASSISTANTSHIP OR FELLOWSHIP, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

14. **How many firm offers of employment did you receive in a field of chemistry or chemical engineering?**

Specify number _____

15. **Professional or technical work experience prior to graduation**

Less than 12 months (or none) ☐ 1
12 to 36 months ☐ 2
More than 36 months ☐ 3

16. **Check the one specialty most related to your job:**

Chemical engineering ☐ 1
Chemistry (including biochemistry) ☐ 2
Other ☐ 3

17. **Check the one category that best describes your employer:**

Private industry ☐ 1
College or university ☐ 2
High school or other school ☐ 3
Federal government (civilian) ☐ 4
Military ☐ 5
State or local government ☐ 6
Hospital or independent laboratory ☐ 7
Other ☐ 8

18. **Check the one work function that best describes your job:**

Teaching ☐ 1
Management or administration ☐ 2
Basic Research ☐ 3
Applied research/Development/Design ☐ 4
Production/Quality control ☐ 5
Other ☐ 6

a. Is your job classified as a technician position?
Yes ☐ 1
No ☐ 2

19. **Employer's approximate number of employees (total for the whole organization):**

Less than 500 ☐ 1
500 to 2,499 ☐ 2
2,500 to 9,999 ☐ 3
10,000 to 24,999 ☐ 4
24,000 or more ☐ 5

20. **Geographic location of employment: Please give first three digits of zip code.**

___ ___ ___

Comments:

THANK YOU FOR YOUR PARTICIPATION

PLEASE RETURN THIS QUESTIONNAIRE PROMPTLY TO

ACS STARTING SALARY SURVEY
ROOM 610, 1155 16th Street NW, Washington, DC 20036

ACS MEMBER SERVICES PUBLICATIONS

Salaries: The Society annually surveys the ACS membership, gathering detailed information on member chemists and chemical engineers. The reports based on this survey contain statistical tables describing the respondents' employment status, employer, work function and specialty, salaries, and demographic characteristics.

Reports are available for each year from 1973 through the current year. For 1987, four separate reports are available: *1987 Salaries of Non-Academic Chemists, 1987 Salaries of Non-Academic Chemical Engineers, 1987 Salaries of Academic Chemists,* and *1987 Employment Status and Demographic Characteristics of ACS Members.*

Starting Salaries: The Society also surveys new graduates in chemistry and chemical engineering each summer, and publishes reports detailing the graduates' employment status, post-graduation plans, starting salaries, and other employment and demographic characteristics.

Reports are available for each year from 1975 through the current year.

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Women Chemists 1985: A supplemental report on the ACS's 1985 Survey of Salaries and Employment.

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ISBN 0-8412-1557-X